Audit New Zealand
Mana Arotake Aotearoa

Asset management for public entities:

Learning from local government examples

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Foreword

Good asset management makes an essential contribution to the governance and management of a public entity's business and is an integral part of an organisation's wider service and financial planning process.

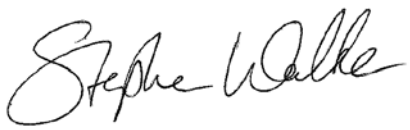
We wanted to foster further improvement of asset management in the public sector by sharing our views and examples from our 2009 audit of the asset management planning of 72 local authorities, carried out as part of our audit of Long-Term Council Community Plans (LTCCPs).

This publication is a resource for public sector asset managers and their organisations and governing bodies. We are confident that it will add value within those organisations and also encourage sharing of more good practice examples between asset managers and public sector organisations.

We would like to thank all the local authorities quoted in this publication for giving us their permission for their case studies to be included. Their willingness to be open and transparent is contributing to the effectiveness and efficiency of the public sector.

I would also like to thank my Specialist Assurance Services team for initiating this publication and for their efforts in bringing it to fruition. The document reflects well on the team's knowledge and expertise in asset management and will be a useful resource in their work to provide advice and assurance to the public sector.

When we carry out our next major audit of LTCCPs in 2012, we are hoping that even more local authorities will have improved the quality of their asset management planning. We also hope that other public sector organisations will have benefited from this publication.



Stephen Walker
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1 April 2010

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The beginning

We have published this collection of notable examples of asset management (most good, some bad), along with our commentary, to help improve performance in this important (and sometimes neglected) area of public management. The examples illustrate how organisations have tackled aspects of asset management effectively. We encourage you to reflect on these examples and think about whether any of them might help you improve your own organisation's performance.

This executive summary provides an overview for chief executives, senior managers, financial and corporate planners, business analysts and those in governance roles. It is supported by the more detailed commentary and the examples in Parts 2 to 8. We encourage senior managers in particular to read Part 5 – the most effective improvements we believe you could make.

Why is asset management important?

Asset management is important for a number of reasons. First, many public services rely on assets to support their delivery. Unless the assets are well managed, the services they support will suffer. Secondly, assets represent a significant investment by New Zealanders that needs to be protected. Thirdly, assets are often taken for granted until they fail. A failed asset can have both social and economic effects on the country. To avoid this, someone has to be actively managing assets – they cannot be taken for granted by everyone.

Asset management essentials

Our work at Audit New Zealand has led us to conclude that there are some asset management essentials that senior management have to get right:

- asset management needs a planned approach, with those involved well organised and clear about what is expected of them;
- asset management needs to be integrated with other planning, considering funding sources and available finance;
- good planning relies on good quality data but data systems can only be as good as the way in which they are operated;
- levels of service need to be clear, explicit, and make sense to asset managers and service users alike;
- lifecycle asset management strategies need to be comprehensive and clearly set out the rationale for what is planned;

- service delivery arrangements need to be clear;
- demand needs to be understood in order to respond to it;
- risks need to be recognised and managed;
- financial forecasts need to be complete and ready to inform the budget so that those in governance roles can make informed choices; and
- planning improves only if the improvement is planned and monitored.

What the best organisations are doing

The best organisations go beyond the basics:

- Professional asset managers are a scarce resource in New Zealand, so the best organisations make the most of the people they have available.
- Updating an asset management plan can be a huge task if left too long – the best keep their planning fresh.
- The best are moving "sustainability" from being a buzz word to something meaningful at the asset level.
- The best at managing assets recognise that levels of service are the absolute heart of good asset management.
- Risk management is a structured process, but the best keep it real so that it means something to managers in their day-to-day work.
- The best know the reliability of their forecasting, which helps decision-makers avoid getting locked into budget figures that were originally only rough estimates.

Learning to avoid the pitfalls

You should avoid some of the pitfalls we have observed, which include:

- being seen to be doing "something", exemplified by long plans, incomplete templates, and generic content that says nothing about local issues;
- "running before you can walk", exemplified by initiatives such as optimised decision-making that does not result in an optimum solution;
- insufficient interest by senior management;
- failure to use scarce resources effectively or share experience with other organisations;
- unclear "levels of service" with poor distinction made between technical and customer-facing levels of service; and confusion between levels of service, levels of provision, customer satisfaction surveys, performance measures, performance indicators, and performance targets;

- failure to consider services from a range of perspectives (for example, quantity, availability, quality, convenience, responsiveness, environment, cost, and system efficiency);
- not joining up the rationale for work on the assets with levels of service and budget setting processes; not striking the right balance between affordability and asset need;
- deferring work without recognising the risk to current levels of service as well as the funding and service-level problems this stores up for the future; and
- lack of external scrutiny to expose planning to fresh perspectives.

The most effective improvements you could make

Improvement planning is an important part of asset management. Things change and there is usually scope to improve. However, there may not be the time, resources, or the need to push forward on all fronts. We have seen some examples that we think are among the most effective improvements you could make, if you are not doing these things already:

- Make it matter: make asset management part of your organisation's culture. Changing your mindset is not costly. It requires leadership.
- Make it fit: asset management is an integrated process that needs to be carried out in a co-ordinated way. It is a multidisciplinary process that involves engineers, financial and corporate planners, and policy makers who need to work together and respect each other's contribution.
- Support it: have a champion, someone who can co-ordinate your asset management. This person does not need to be an asset manager, but needs good project management skills.
- Make it easy: managing assets can be complex, but you can use templates, clear standards, and concise plans to make the task of writing a plan manageable.
- Keep on top of your asset information: continually maintain the information you need to manage your assets to build up its accuracy and reliability.
- Make performance management real: performance data should be useful. It should enable managers to make decisions, or help guide staff in their work on assets, or provide information to the public (or other stakeholders) about the services they are getting.
- Use your asset management to make more informed budgetary choices: the outputs from your asset management planning should drive your budget (your budget should not drive your asset management practice).
- Manage risk, but do not over-complicate: using a consistent risk-management framework across the whole organisation will help save time, allow you to compare risks across services, and to identify the highest priorities.

- Manage demand: consider factors other than just demographics, make sure that assumptions are consistent across your organisation, and consider a range of demand management options. As a result, you might find that you do not need to invest in more assets and incur the ongoing costs of maintaining them.

Talk to your community

It is important to talk to your community: they use your services now, and are likely to have a strong interest on behalf of future customers (who will include their children and grandchildren). You also need to consider "inter-generational" fairness – you should not be incurring unsustainable debts or creating other problems for future taxpayers.

Your community can help you determine priorities and levels of service. The local context is an important factor in asset management planning. Local people can give you an informed view about priorities and how assets work in their community.

Finally

Remember that the purpose of asset management is to provide a desired level of service through the management of assets in the most cost-effective manner for present and future customers.[1] Asset management is about the long-term sustainability of assets and the services they support.

1 National Asset Management Steering (NAMS) Group, Association of Local Government Engineering NZ Inc (INGENIUM) (2006) 3rd edition (Version 3.0), *International Infrastructure Management Manual*, National Asset Management Steering Group, Association of Local Government Engineering NZ Inc. (INGENIUM), page 1.3.

Part 1
Learnings from our 2009 LTCCP audits

Our 2009 audit of 72 local government LTCCPs showed us that, in some respects, asset management performance has improved between 2006 and 2009. However, our overall conclusion is that the degree of improvement has been disappointing.

Of the 67 councils for which we can compare their 2006 planning to that of 2009, we concluded that 27% have improved, 19% seem to have gone backwards, and the majority (54%) have stayed broadly the same. Within any sample of entities, it is expected that performance in some areas will have declined over time, perhaps because of the loss of a key person with the skill to drive asset management practice forward. We regard such entities as exceptions, and consider that they are likely to bounce back when they have overcome whatever setback they suffered.

Of more concern are the 54% of councils where performance seems to have reached a plateau. This would not be a problem if all these councils were at the level of practice that they aspire to. However, this was not the case. We concluded that the majority of councils needed to improve some aspects of their asset management planning.

Learning from our audit findings

We analysed the findings from our 72 audits, and came up with examples that we thought were notable from 24 of them. The 24 councils we quote in this publication are a cross-section from the big metropolitan centres to the small rural districts. We think these examples demonstrate what is possible, even for a small organisation. In fact, for a small organisation with limited resources, learning from others can be a cost-effective way of improving practice.

The challenges and the areas of notable practice seem to fall into two categories – those at organisation level, and those at a detailed asset management level.

Organisational issues

The better organisations recognise the need to take a project-managed approach to planning, although the quality of project management varies widely. Good quality project management skills seem to be in short supply. In the organisations we reviewed, a lack of good project management often left asset management issues unresolved by the time the information was needed to inform the LTCCP or other corporate planning. The value of

good asset management planning is undermined if it does not join up with wider service and financial planning.

The better organisations have a clear policy framework covering asset management as well as the related topics of sustainable development and performance management. These policies make it much clearer where asset management fits with service and financial planning.

Links between performance management at the organisation and asset levels vary, with issues including:

- unclear definitions and mixed-up terminology in the performance framework;
- a lack of clarity about where certain measures fit in the performance hierarchy; and
- a lack of clarity about what measures are reported when and to whom.

The better organisations have well-defined quality assurance, checking, review, and sign-off processes for:

- asset information flowing into LTCCP and other planning (both financial and non-financial); and
- asset management plan review to ensure that a consistent approach is taken throughout the organisation.

We found that asset management was improving most strongly where the organisation recognised the importance of improvement planning and adopted a structured approach. Organisations that have progressed seem to do so in one of two ways:

- continuous improvement; or
- major rewrite.

In our view, the continuously improving approach is more effective as it is clearly driven by active use of plans and planning.

Effective asset management needs resources dedicated to it. The most effective organisations:

- recognise and support the cost of asset management plan development and review;
- are proactive at attracting and retaining people with the right skills, supplemented with consultants where necessary; and
- ensure that their staff have the guidance they need.

Asset management issues

The most effective organisations have developed a policy that sets out which services need asset management plans, and the level of sophistication[2] that is appropriate.

Data quality

Good quality planning is impossible without good quality data. While all organisations have some data about their assets, the better organisations know the accuracy of the data and are working to improve it. They have quality assurance regimes over data collection, data entry, and maintenance of their asset information systems. They are continuously and proactively collecting condition and performance information.

Links between levels of service and performance management

We found that many councils struggle to link the levels of service that they have defined at asset level to any sort of performance management framework. It is often not clear what the "community outcomes" mean for the way the assets are managed. The better organisations link performance measures, indicators, and targets to their levels of service. However, many confuse all these elements, so it was not clear to us what the levels of service actually were.

Lifecycle management

While we found that most councils have done some work to consider the lifecycle management needs of their assets, there were three areas that we concluded were consistently weak:

- **Definition of management processes and service delivery arrangements**. Most councils had not documented their service delivery arrangements, contracts, or the rationale for their way of working. Most, similarly, did not have documented maintenance plans linked to standards and performance criteria for their contractors to meet. Where this detail did exist, it was often in contracts, not in plans, which, in our view, is the wrong way around.
- **Risk management**. Where risk management was formally documented in planning, it tended to be at either corporate or service level. Few considered risks at both levels. The better organisations made the link between levels of service and risk, rather than just focusing on natural disasters or health and safety.
- **Demand management**. The growth and demand sections of many plans only considered changes in demographics rather than the other factors that could affect demand (such as people's changing preferences). Ways of addressing demand, other than through more assets, were not often explicit, except in the better organisations.

2 See the glossary in the Appendix for guidance on this term.

Financial forecasts

Our audit found that financial forecasting was one of the weakest areas overall.

We expected financial forecasts to be developed based on asset need, and for these to flow into the corporate budget-setting process. We expected budget decisions to focus mostly on "discretionary" capital spending. Where changes were made to maintenance and renewal forecasts, we expected an accompanying statement in the asset management plan highlighting the rationale for, and implications of, the change. Too often we saw budgets being compiled in isolation from asset management planning.

We found that asset management plans are often unclear about the reliability of the forecasts and the assumptions supporting them.

The better organisations have a structured approach to internal and external review of their planning. The worst have an unstructured approach to their planning or have not opened up their planning to the different perspective that an external reviewer could bring.

What we learned from our 2009 audits

An effective organisation needs to get its asset management right at both the organisational and asset levels. While both of these themes are present in the examples of notable practice provided in this publication, we have decided to feed back what we have learned from the 2009 audits using the following structure:

- What are the asset management essentials that you must get right? These are the basics as we see them.
- The best of what we found, and what makes it so good. These are real examples that show you how to go from the "core"[3] level to a more advanced (that is, sophisticated) level of asset management practice.
- The worst of what we found, and why it matters. These are the pitfalls you need to avoid.
- The most effective improvements you could make. We have concluded that concentrating on these elements can be an effective way forward.
- What looks good but does not add value. Asset management needs to be real and kept in proportion. No one has time for things that do not add value.
- What should you be talking to your community about? Assets are there to support services, and the views of service users are important.
- Why does an audit and other external review matters? We believe they do and the better-performing organisations seem to agree.

3 For more guidance on "core" and "advanced" asset management, refer to Section 2.2 (page 2.11) of the *International Infrastructure Management Manual*. See footnote 1, above.

Part 2
The essentials of asset management

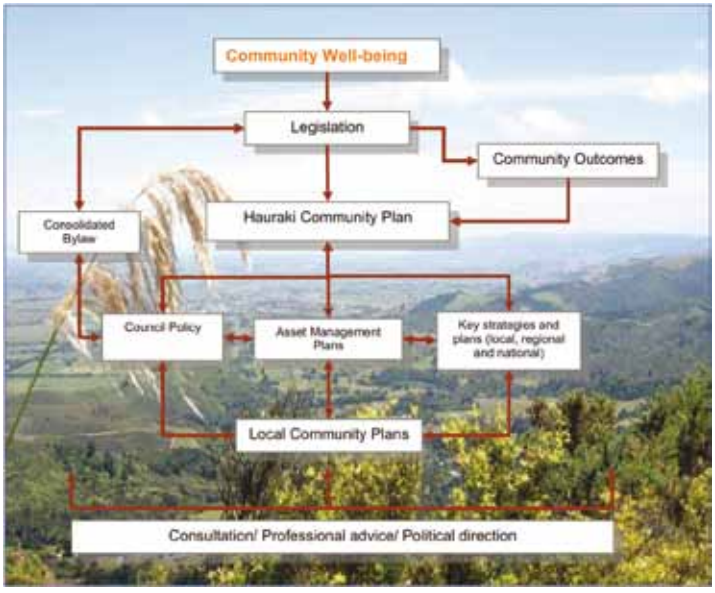
There are some asset management essentials that you must get right. This Part gives a guidance to those who have wider management responsibilities as well as to hands-on asset managers.

Asset management is integral to strategic, operational, service, and financial planning

Asset management has to be recognised for what it is – an essential part of effective business planning – particularly for organisations whose services rely on assets to support their service delivery. It links together an organisation's objectives with the levels of service needed to deliver them, the work required on the assets to sustain those levels of service, and the finances needed to support that work.

Case study 2.1

Hauraki District Council – Seeing asset management in the context of other plans, strategies, and policies means that they all come together to deliver the organisation's objectives

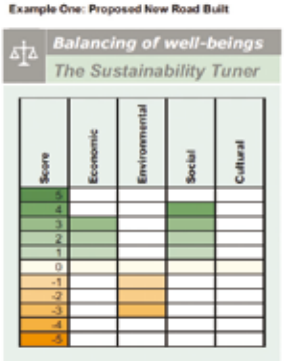


Hauraki District Council has a corporate policy framework to guide its development of asset management plans.

The Council's framework for asset management planning provides a structure to ensure that asset management plans are developed within the context of other strategic and operational plans and legislative requirements, including the District Plan and the Regional Transport Strategy. This is made possible by having a "corporate team" approach to planning.

The Council has a policy on "Sustainability and Well-being", which was adopted in 2006. The policy supports asset management plans. The Council's view of sustainability

is based on bringing together planning and delivery of services in a way that takes account of social, cultural, economic, and environmental well-being. It uses a "sustainability tuner" to visually represent the balance between these types of well-being. The Council uses a decision-making matrix to take responsibility (sometimes on its own, and sometimes in partnership) to tune or balance the "sustainability tuner" in such a way that all types of well-being are either maintained or enhanced by a proposal.



Asset management needs a planned approach, with those involved well organised and clear about what is expected of them

The process of asset management planning needs to be planned. We have concluded that this is most effectively done in three ways:

- first, by making it clear who is responsible for which elements of planning;
- secondly, by freeing up technically skilled staff from administrative and other tasks that do not need their professional disciplines so that they can focus on planning; and
- finally, by being clear about how sophisticated planning needs to be to effectively support the particular service, so managers know what they are working towards.

An asset management policy can be a good way to set this out.

Case study 2.2

Timaru District Council – A policy-led approach to determining the appropriate level of sophistication means everyone is clear about what needs to be done

Timaru District Council has developed an asset management policy in association with Waugh Infrastructure Management Limited as part of a Canterbury-wide initiative. It provides managers with a framework for deciding on the appropriate level of asset management practice for each activity. It sets out asset management policy principles and objectives for specific asset groups – land transport, utilities, parks, solid waste, and property. These policy principles provide asset managers with a guide on factors such as service delivery, integration of asset management with corporate and strategic frameworks, decision-making, and sustainable management.

The methodology that the Council uses to select the appropriate level of asset management practice for each service is based on a determination of risk related to population size and district-wide risk factors. It then analyses factors comprising:

- costs and benefits;
- legislative requirements;
- size, condition, and complexity of the assets;
- organisational skills and resources;
- customer expectations; and
- sustainability.

Case study 2.3

Hutt City Council – Clear policy and approvals give asset managers clarity about what they are doing

Hutt City Council has a Corporate Asset Management Policy that sets out clear, co-ordinated management arrangements. A proposed Asset Management Working Group will support the Senior Leadership Team and the Council with their responsibilities. The policy allows for good involvement by senior managers and councillors in key asset management decisions. The policy is clear on approvals. Asset management activities are reviewed annually by senior managers as part of setting the annual budget. Councillors approve annual capital development, renewal, and maintenance budgets, which are linked to the asset management plans. In addition, the Council's Finance and Audit Committee reviews activity plans each year.

Asset management planning needs to consider funding sources and available finance

Effective asset management needs to consider funding. Planned work should be both necessary and affordable. If it is unaffordable, a reduction in work should be matched by a reduction in service level.

Sometimes, the funding sources influence what is planned. For example, in local government there are "development contributions" (payments that developers can be required to make towards the costs of meeting growth). A council needs firm policies and a well-planned approach to justify the contributions it takes from developers.

Other organisations will find that their own funding sources often have associated limitations and conditions. Asset managers need to recognise these factors and work with them.

Case study 2.4

Hutt City Council – Considering funding sources makes it more likely that planned works are affordable

To improve and extend the "Parks and Reserves Activity" so that it can meet required standards into the future, the Council has agreed to a set of principles that come together as a development strategy. There is an explicit link between asset management plans and funding. For example, one link is to Council policy on development contributions to manage the effects of growth, capital spending, and the effects on services.

Extract from Hutt City Council's Parks and Reserves asset management plan

Strategy	
Reserves Contributions	Contributions by developers is on the basis of: *The financial contributions included in the Local Government Act 2002 will be enforced to recover some of the costs of growth, with an emphasis on achieving a fair allocation. Council's reserves contributions system has been established. This allows for collecting growth-related costs both for acquisition of reserve land, and for upgrading the facilities on new and existing open space areas.*

Case study 2.5

Auckland City Council – A policy-led approach to funding means asset managers can successfully tap into all available funding sources

"Development contributions" are referred to across Auckland City Council's plans. The "Transport" and "Leisure" facilities financial summaries specifically identify the level of expected development contributions so that the link between funding and planned works is clear. For "Transport", this covers both capital and revenue, and the plan clearly states that calculations are in keeping with the development contributions policy so that the reader is well informed about the basis for the funding. For "Stormwater", where network upgrades are required – to meet growth pressures, to reflect the desired levels of service, and to replace pipes at the end of their life – the Council has calculated a percentage of the capital works programme classified as "cost of growth" to be funded by development contributions.

Case study 2.6

North Shore City Council – Being clear on the rationale for work ensures that projects can be funded fairly

Development contributions are a major part of North Shore City Council's planning. For example, its Wastewater Plan states: "Council will continue to collect development contributions to fund the identified growth related projects". It then highlights "the importance of identifying project drivers to enable fair and well-substantiated calculation of development contributions". Other plans have specific sections devoted to the topic.

Good planning relies on good quality data

You require data to analyse a network of assets to determine the work it needs. Financial planning also depends on accurate asset valuations that use reliable asset data. Any analysis will only be as accurate as the data that it is based on. Verifying a theoretical programme of work before implementing it requires inspecting the assets, which results in more data.

Having good quality asset data means recognising the limitations of the data inherited from previous owners or asset managers. You will also need to improve the quality and reliability of the data. If an organisation does not have a record of when a particular asset was installed, it never will, but it can gather data on the current condition and performance of that asset to provide a firmer basis for planning its replacement.

Data systems can only be as good as the way in which they are operated

One of the critical decisions that asset managers have to make is how they will store asset data. There are many alternatives. These range from simple spreadsheets to advanced data management systems that are capable of performing a variety of asset management functions such as lifecycle modelling. Organisations must match the capabilities of their data systems to their data needs and the capacity of their operational staff. There is little point in buying an advanced data management system that gets used for only the most basic of data inventory purposes.

Case study 2.7

North Shore City Council – Good asset management means taking data collection seriously

North Shore City Council's plans are based on good quality information about the Council's assets, and having ongoing condition and performance assessments to further refine the available data. There are planned approaches to data collection, including programmes of "condition surveys".

The Council has adopted the latest data collection methods. For example, the Parks Activity Team has hand-held Global Positioning System (GPS) units enabling direct feed to the Geographical Information System (GIS) from on site inspections. Programmed condition inspections are verified through spreadsheets before entry in the GIS.

The Wastewater Activity Team has a programme of field condition surveys (using closed-circuit television) of the local wastewater pipes. Asset data has also been collected as part of developing Integrated Catchment Management Plans. There is a specific operational expenditure budget for inspecting critical assets.

The Council's data is held in a variety of systems, but the GIS is the "hub" and the main repository of spatial data. The Council's systems are integrated, with the asset register being updated in real time, which eliminates the need for periodic reconciliation.

The Council has a comprehensive set of data standards covering all asset areas, commonly known as the "Asset Data Standards Manuals", which set out data requirements for newly constructed and replaced assets. These help the Council to ensure that data quality is maintained as the assets are further developed.

Levels of service need to be clear, explicit, and make sense to asset managers and service users alike

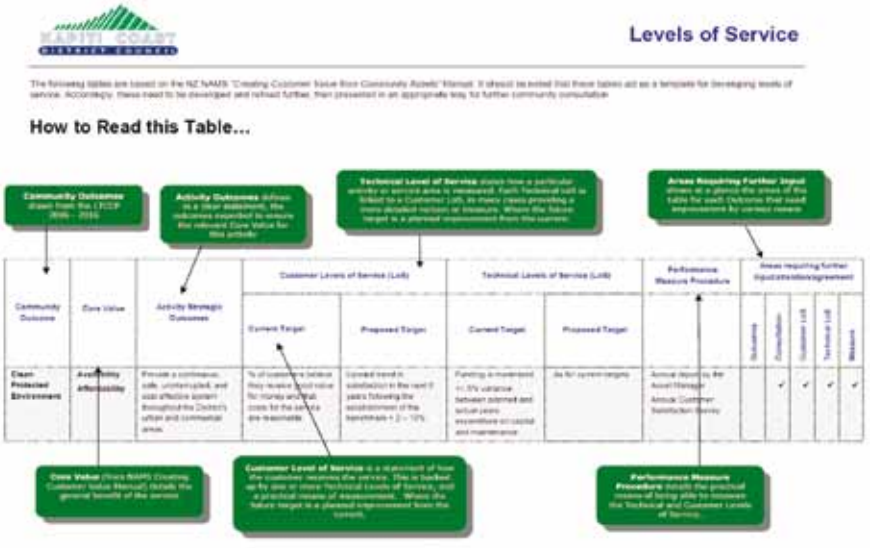
The purpose of asset management is to provide a desired level of service through the management of assets in the most cost-effective manner for present and future customers. Unless the desired levels of service are defined, clear, and understood by asset managers and users alike, there cannot be effective asset management.

Case study 2.8

Kapiti Coast District Council – Being clear about how the various elements of the performance framework fit together makes it clear to managers why each is important

The Council's water supply asset management plan makes good links between Community Outcome, Core Value, Activity Strategic Outcomes, Customer Levels of Service, Technical Levels of Service, and Performance Measure Procedure. A table in the Water Asset Management Plan makes it clear how the activity assists the Council to achieve its strategic goals.

How Kapiti Coast District Council links its community outcomes to targets at asset level through a range of core values



Case study 2.9

Masterton District Council – Being focused and clear when expressing levels of service allows asset managers and service users alike to be clear about what is expected

Masterton District Council expresses its levels of service well in its asset management plans. It is very focused on those aspects of the service it has determined are important to local people. For example, the Water Supply Plan has two levels of service:

- to provide an efficient and effective water supply systems; and
- to provide water supply services in a manner that is acceptable, safe, and has minimal environmental impact.

These statements are written in a way that should be easily understood by the public, and make very clear the standard of service that customers can expect. The levels of service are supported by a suite of 10 performance indicators that give the Council something meaningful from a technical perspective that are also linked directly back to the customer levels of service. The Council has clearly described how the levels of service contribute to the community outcomes to ensure that the way the Council manages its assets helps to achieve its strategic goals.

Masterton District Council's current levels of service, performance measures, and targets for water supply services [Abbreviated and formatted to fit on page]

Level of service	Performance measures	Baseline	Performance targets			
		2007/08	2009/10	2010/11	2011/12	Years 4-10
Provide efficient and effective water supply systems	Customer satisfaction with urban water supply services	84% Peer group average: 88% (within margin of error)	Maintain satisfaction and equal or exceed peer group average			
	Proportion of the time that treatment plants are able to receive and treat raw water	100%	100%			
	Supply is restored within four hours following a planned or emergency shutdown	95% target met	More than 95% of shutdowns			
	An alternative water supply is provided when shutdown exceeds 24 hours	No shutdowns exceeded 24 hours	100% of occasions			
	Water supply assets managed to the level specified and agreed in the Asset Management Plan	Filter refurbishment delayed and no water reticulation renewals were undertaken	Work/projects scheduled for this year are completed			
	Complete a six-yearly assessment of water service provision in the District	Due: 2012	Due: 2012		Completed on time & 100% compliant with LGA 2002	

Lifecycle asset management strategies need to be comprehensive and must clearly set out the rationale for what is planned

Lifecycle asset management is the cycle of activities associated with planning for, creating, operating, maintaining, replacing, rehabilitating, and disposing of assets. All of these elements need to be included in an effective asset management plan. They are all inter-related, and so the rationale in one area will influence plans in another.

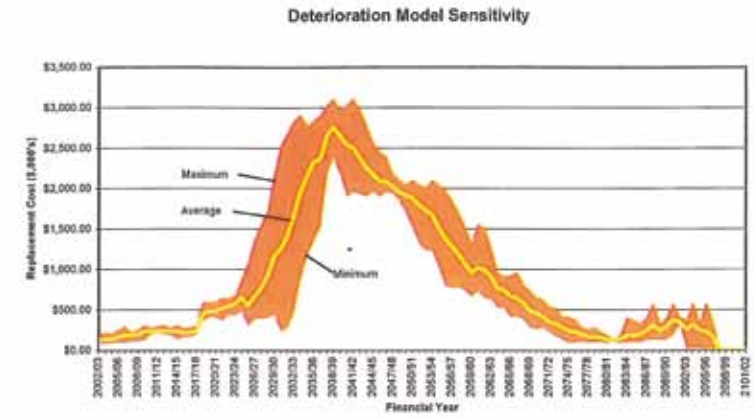
Case study 2.10

Upper Hutt City Council – Comprehensive documentation of lifecycle asset management makes for a comprehensive plan, which provides strong support for planned works

In line with good practice, all of Upper Hutt City Council's asset management plans contain lifecycle asset management strategies. They are very specific, with clear distinctions made between the issues covered in each part of the plan. There are clear, specific sections dedicated to:

- physical parameters;
- asset capacity/performance;
- asset condition;
- asset valuations;
- historical data;
- the Routine Maintenance Plan;
- the Renewal/Replacement Plan;
- the Creation/Acquisition/Augmentation Plan;
- the Disposal Plan; and
- the financial summary.

Example of detailed planning – The "Deterioration Model Sensitivity" graph for wastewater planning is used to assess the effect of uncertainty in estimating the expected life (or intervention trigger levels) for an asset



The Council finds that this level of structured planning gives it:

- greater budgeting surety;
- better control of costs, supported by confidence that it is replacing what it has to when it has to; and
- improved knowledge and confidence in the asset replacement programme. This allows changes to be made to accommodate unplanned events (such as a building development) without increasing the risk of asset failure.

Case study 2.11

Invercargill City Council – Being clear about the maintenance strategy means being clear about the best mix of planned and reactive work, and what performance standards contractors need to work to

Invercargill City Council has developed maintenance and operations plans for its major assets – roading and water supply. These are detailed for each class of asset. The maintenance approach is clearly influenced by the criticality of the various assets (for example, setting operating pressure for bulk supply pipes).

As part of setting out its management strategies, the Council is explicit about performance criteria, and considers trade-offs between planned and unplanned maintenance. For example, its roading asset management plan identifies the rationale and its approach to differentiating between planned and unplanned maintenance for each of the asset classes.

Service delivery arrangements need to be clear

An organisation needs to be clear about how service delivery is organised. This includes:

- how it organises its own in-house resources; and
- how its relationships with contractors are structured and managed.

An asset management plan is a good place to document these arrangements and record the rationale for them. That way, the structures and contracts become a means of implementing the plan, and, if the rationale changes, the arrangements can be reconsidered as part of planning.

Case study 2.12

Horowhenua District Council – A good structure, and clear roles and responsibilities means everyone is clear about who does what, and best use is made of limited resources

Horowhenua District Council has effective arrangements in place to co-ordinate asset management across the Council under the leadership of a Community Assets Manager. He is supported by an Infrastructure Asset Manager and a Facilities Asset Manager (who lead planning for the various asset groups), along with teams of operational staff and a team dedicated to managing capital projects.

The way in which the Council manages staff who are responsible for asset management planning makes it clear how important asset management is to the Council. The asset managers have asset management planning as core elements of their job descriptions.

Workshops allow councillors to be appropriately involved in asset management planning. In particular, they help to consider the asset requirements to support growth in demand.

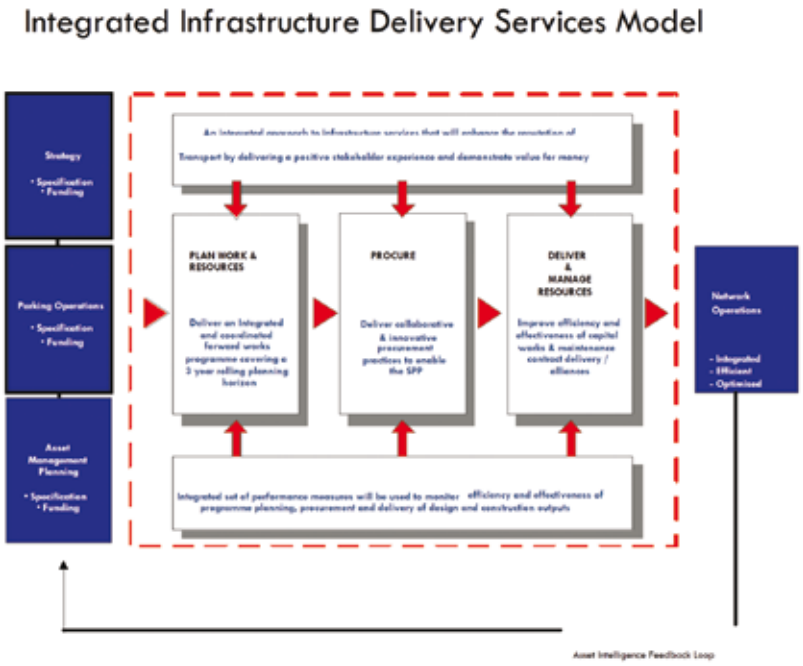
There is input from throughout the Council to specific areas of the plan. For example, Planning and Regulatory staff have input to the District Plan, the Geographical Information System officer provides information on piped assets, and the Finance Manager has significant input to planning the financial programmes and setting up the funding mechanisms to ensure that they meet the Council's funding policies.

To ensure that asset management is not carried out in isolation, it is project managed alongside other planning by an officer group drawn from throughout the organisation. This group meets weekly during the key planning period.

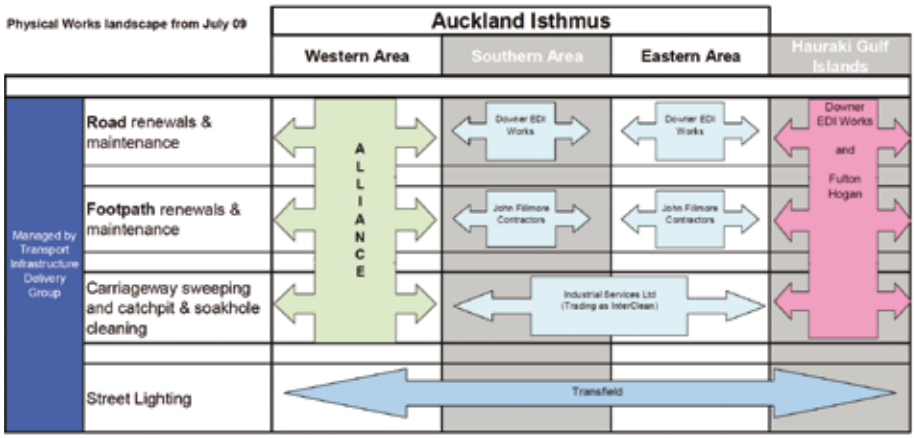
Case study 2.13

Auckland City Council – Being clear about service delivery arrangements and the rationale for them makes it more likely that they continue to meet service needs rather than simply being based on history

Auckland City Council's asset management plans each set out, in their differing ways and levels of detail proportional to the asset group concerned, service delivery structures and roles, contracts, and service delivery mechanisms. For example, the Transport asset management plan sets out its "Integrated Infrastructure Delivery Services Model" in its "asset management practices" section. It notes that: "the procurement team, in conjunction with the asset management team, are reviewing the contractual landscape and as part of this have introduced the Maintenance Alliance".



Auckland City Council's "Maintenance Alliance"



Demand needs to be understood in order to respond to it

The demand placed on assets is not fixed. Additional use can lead to an asset deteriorating more quickly than had been assumed, so its replacement may need to come earlier, or additional maintenance may be needed. Similarly, additional demand may leave an asset with inadequate capacity to meet that demand.

Conversely, the tastes, expectations, wants, and needs of users change over time, and this in turn influences the demand for assets. Some assets may become obsolete, even though they are still serviceable. Other assets may last longer if fewer people are using them. Demand is about much more than changes in the number of people locally, and good planning needs to recognise this.

Case study 2.14

North Shore City Council – Consistently forecasting demand and actively thinking how best to manage it is more likely to lead to a planned approach that meets local need

Each of North Shore City Council's asset management plans contains an analysis of growth and demand aligned with the Council's Growth Strategy City Blueprint and the Regional Growth Strategy. Growth modelling is co-ordinated centrally by the Strategy and Policy Division of the Council. This ensures a consistent and integrated approach for all activity areas.

Examples of the modelling set out in North Shore City Council's asset management plans

Figure 4.4 Wastewater Flows Forecast

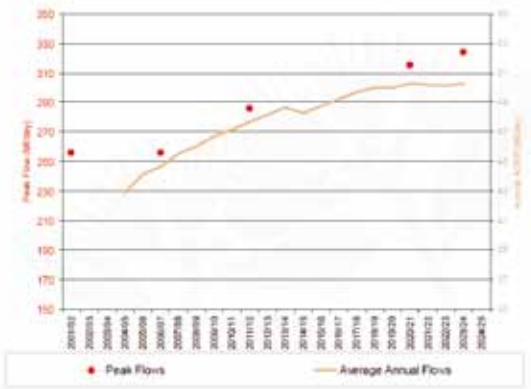
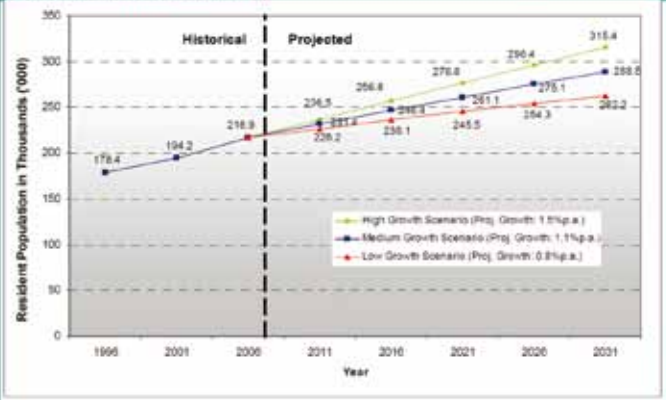


Figure 4.1 North Shore Resident Population (Data Source: Statistics New Zealand)



Rather than responding to growth in demand with more investment in its assets, the Council has some good examples of demand management to promote sustainable asset use. For example:

- water supply demand management plans;
- travel behaviour change activities; and
- "land banking" to preserve land to meet the level of service for open space as development continues.

Risks need to be recognised and managed

To own and operate an asset is to take a risk. There are risks that assets will break down and/or fail to deliver the planned level of service. There can be risks to health and safety if assets are not adequately maintained. Assets are also at risk from natural disasters. Even though these are rare events, the effects could be large.

Asset failures can damage the reputation of an organisation.

Managing risk is integral to managing assets.

Case study 2.15

Invercargill City Council – Adopting a standardised approach to risk management means individual managers can focus on managing the risks rather than worrying about what risk management approach to take

Invercargill City Council has adopted a risk management process consistent with the Australian/New Zealand Standard AS/NZS: 4360 Risk management.

The Standard specifies the elements of the risk management process, and allows organisations to develop their own risk management systems consistent with the Standard, but specific to the organisation's needs. The Standard provides a generic guide for managing risk. The Council has developed this into an approach that it applies to its assets. The Standard is applicable to all stages in the life of an activity, function, project, product, or asset.

Invercargill City Council has a corporate risk analysis process that it has incorporated into its asset management planning. Each asset management plan has a risk register. Risks are identified against community and strategic outcomes. The risk process identifies potential effects on levels of service and identifies existing and proposed control or mitigation measures.

In common with other councils planning for civil defence and emergency management, Invercargill has identified its critical assets as part of the "Lifelines" project. However, it has gone further and made the link to its own risk management processes, as well as identifying critical parts of the network from the point of view of the public and providers of other services (for example, Telecom).

Financial forecasts need to be complete and ready to inform the budget

We said at the start of this Part that asset management is an essential part of effective business planning. For assets to influence the budget, rather than being constrained by it, planning needs to be done at a time that allows completed financial forecasts to be ready to *underpin* the budget. In that way, those making decisions on budgets can be better informed and able to consider the effect of their decisions on the assets and levels of service that the assets support.

Planning improves only if the improvement is planned and monitored

Improvement is always possible and in most asset management plans is desirable. Most organisations focus well on improving their assets but to a lesser extent on improving the planning and information systems that support the assets. As a result, the improvements they carry out may not be the most cost-effective.

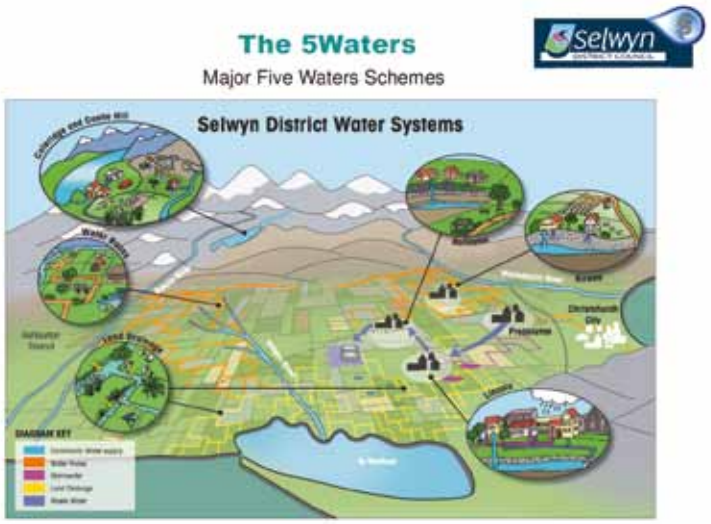
Asset management plans should include plans for improving assets. These should be understood and approved at senior levels within the organisation. The most effective improvement plans, as well as identifying tasks, will identify the financial and staff resources necessary to achieve them, the time-scales, priorities, and who is responsible for ensuring that the improvements are achieved.

Progress made with the plan should be regularly monitored by senior managers, and action reported to the overseeing governance structure.

Case study 2.16

Selwyn District Council – Has developed a system to ensure that its planned asset improvements are properly managed, monitored, and reported – showing that a good asset improvement plan need not be overly complex, but needs to be well structured and actively managed

Selwyn District Council has, by integrating the five waters (water supply, wastewater, water-races, stormwater, and land drainage), achieved comprehensive improvement planning in its Five Waters Activity Management Plan.



Improvements are identified in each section of the plan and cross-referenced to a detailed projects programme designed to achieve the intended level of asset management sophistication. The improvements relate to matters such as sustainability, audit and monitoring, data collection, and "criticality ranking". The plan identifies priorities (through a scoring assessment), responsibility, current status, and a cost programme for the project(s) in the next 10 years. The Five Waters plan now appropriately accounts for the benefits accrued to different communities within the Selwyn district. Councillors have approved the finance required to implement the plan. The Council also maintains a spreadsheet of earlier improvement actions, which records and demonstrates the progress it has made.

Part 3
The best of what we found, and what makes it so good

Many of the councils that we audited had gone beyond the basics. This Part gives some examples of the best practice that we found, and what, in our view, makes it so good.

Professional asset managers are a scarce resource in New Zealand – the best make the most of the people they have available

With limitations on the availability of professional asset managers, it is important that organisations make the best use of the resources they do have available. The best organisations think creatively about how to do this. It can involve:

- bringing teams together so asset managers can support each other and be supported by other staff, in some cases working jointly with other organisations;
- effectively co-ordinating all those involved in planning;
- making sure that asset management planning is a clear part of someone's job, not just something to be fitted around other responsibilities; and
- making sure that planning is fit for purpose without more than is needed.

Case study 3.1

Manawatu and Rangitikei District Councils – Recognising the limitations of working in small local authorities led to some creative thinking about how to tackle these limitations

In general, small organisations can struggle to have the technical resources they need to manage assets. Manawatu and Rangitikei District Councils, recognising that they both faced similar limitations because they are small rural local authorities, have tackled this by working together. As a result, they have come up with an innovative way of pooling their expertise and the common elements of their planning. The two councils recently entered into a shared services agreement for asset services, with all staff now managed through the Manawatu Asset Group, although they work to the Rangitikei performance and development system. A 2007 memorandum of understanding set out the objectives of the arrangement, the scope of services, commitment to levels of service, governance, and costs. The shared services agreement has been in place since 1 July 2008. A co-ordinated asset management strategy, which covers the two districts, is being implemented.

The two councils have seen a number of benefits from the joint approach, including:

- a more strategic approach to investment in renewals and capital;
- better outcomes arising from the greater capacity of a larger team;
- better information to the governance arm, facilitating better-informed decisions; and
- better opportunities for career progression for staff.

Case study 3.2

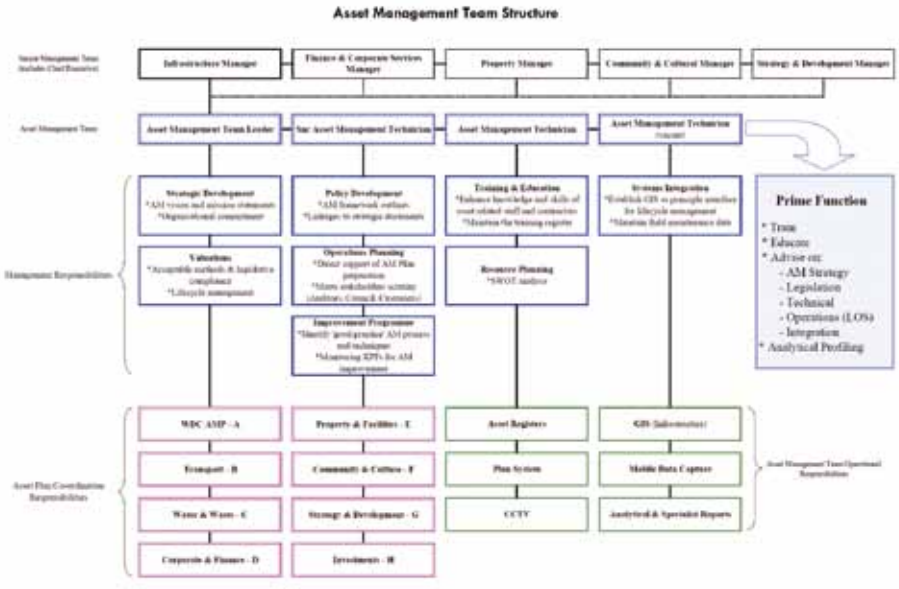
Wanganui District Council – A structured approach to planning makes the best use of the limited resources that councils outside the big cities have to work with

Wanganui District Council has identified 25 service areas that are supported, to a greater or lesser extent, by assets. To co-ordinate its activities across all these service areas, the Council is developing a planning framework comprising:

- a council-wide asset management plan prepared by the Asset Management Team and adopted by elected members – this will give an executive summary of the issues across all asset groups, supported by the summaries from the service-level plans;
- detailed asset management plans for each of the 25 service areas, prepared by the activity managers, approved by the Asset Management Team, and endorsed by the Senior Management Team; and
- information systems (which support the above plans) administered by the Asset Management Team, comprising asset registers, condition and performance ratings, Geographical Information System, mobile data capture, and an "as-built" plan system.

This structure ensures that there are clear arrangements for co-ordinating asset management planning across the range of differing council services, and that there is a consistent and planned approach across the multitude of functions and activities.

There is a clear management structure establishing responsibility for asset management plans. Activity managers produce these plans, with support from members of the asset management team. There are clearly demarcated roles with job descriptions in place setting out the asset management team's role to co-ordinate, support, train, and analyse.



This approach helps the Council ensure that ownership of planning is retained at service level, while making best use of the limited asset management specialists available.

Case study 3.3

Horizons Regional Council – Recognising what is common across the asset base and what is different, means you can say the common things once, and say them well, without cluttering up lots of plans with duplicated information

Horizons Regional Council, like many similar local authorities around the country, manages a range of river control and drainage schemes. The Council does its asset management planning at two levels because it recognises that there are policies and practices that apply across the whole asset base, but there are also aspects of service that vary from scheme to scheme. The Council has an overarching plan containing its "Common Policies and Procedures". This provides the context, covering:

- the links between community outcomes and asset management plans; and
- the legislative context, which specifies legislation that is relevant to asset management planning within the Council's wider planning framework.

There is a service level framework that applies across the asset base, but, although levels of service are assessed against a consistent suite of measures, the Council has the flexibility to have different targets (or levels of the same service) across its various schemes. There is a good process for establishing these local levels of service, informed by community consultation through the Scheme Liaison Committees (which are used for regular consultation), and periodic Scheme Level Reviews (which are used for more fundamental decision-making).

Overall levels of service are presented in the overarching plan "Policies and Procedures common to all scheme assets managed by Horizons Regional Council". Detailed levels of service are set out in the appendices to the Scheme Level plans.

The "Common Policies and Procedures" set out, in tabular form, strategic outcomes, customer levels of service, and technical levels of service, with associated performance measures.

There are a number of strengths in the way the Council sets out its service level framework:

- there are good links between levels of service and quantifiable key performance indicators;
- the strategic outcomes, in particular, are written in ways that can easily be understood by the public;
- technical performance measures link directly to maintenance standards and allow the Council to define a detailed maintenance rating description for each asset type, which when grouped – flood, erosion, and drainage categories – provides an overview of whether a scheme is meeting the desired strategic outcome; and
- links between technical measures and the Council's goals are explicit.

Example of Horizons Regional Council's strategic outcomes and customer levels of service – agreed with the community through Scheme Liaison Committees and supported by detailed technical levels of service and performance measures

Strategic outcome	Customer level of service	Technical level of service
• The service protects people and property from the impacts of flooding	• Flood flows that do not exceed 1% AEP* will be contained within stop-banks to protect adjoining developed areas and farmland	• Asset is at maintenance rating 2 or above
• The service minimises river bank erosion	• River alignment maintained to a predetermined design alignment	• Asset is at maintenance rating 2 or above
• The service collects and conveys catchment run-off to minimise surface ponding	• Maintain drainage capacity that facilitates maintenance of appropriate groundwater levels	• Drainage channel is at maintenance rating 2 or above

* Annual Exceedance Probability, which indicates the probability of a flood of a given or larger size occurring in any one year.

Updating an asset management plan can be a huge task if left too long – the best keep their planning fresh

An asset management plan is a detailed technical document. Even if an organisation avoids some of the pitfalls we describe later, a good plan will be a sizeable document. It will take some effort to write in the first place, but, once done, it also needs to be kept up to date to continue being useful.

Our conclusion is that it is easier to make regular small improvements than it is to leave a plan for a number of years and then embark on what can turn into a complete re-write. Regular, small improvements also ensure that there is always a reasonably current plan in place.

Case study 3.4

Upper Hutt City Council – An iterative development process means that asset management plans (AMPs) are well integrated with business planning, and regularly updated. This means the Council avoids the daunting task of periodically overhauling its AMPs.

Upper Hutt City Council has thought hard about how its approach to asset management can best be integrated with its business planning process. Rather than doing all its planning concurrently as many councils do, it has developed an iterative process for updating and finalising its AMPs.

Unlike many councils that update their plans, say, every three years, Upper Hutt has devised an annual process of review and update so that the AMPs really are living documents – plans that are actively used as plans for what will be done.

The Council starts its review process early in the year, working towards a series of April review workshops, where asset engineers get together with senior managers to scrutinise the forthcoming work programmes. In May and June, plans are then adjusted to reflect the outcome from the workshops. Final drafts are available to inform corporate planning and the Long-Term Council Community Plan. The AMPs themselves are updated again and finalised once the Council has adopted its LTCCP or annual plan.

The best are moving "sustainability" from being a buzz word to something meaningful at the asset level

Sustainability is an important element of asset management planning. Even leaving aside the environmental reasons for considering it, the lifespan of many assets requires that sustainability has to be considered. Asset management should determine the most cost-effective solution that balances the needs of present and future customers.

Environmental, economic, social, and cultural effects are all relevant considerations when judging sustainability. The best organisations recognise this and have moved beyond making token references to the obvious "green" issues.

Case study 3.5

Manukau City Council – Thinking seriously about "sustainability" moves it from being a buzz word to something more meaningful

Manukau City Council has recognised the growing importance of taking a strategic approach to sustainability. To support this, the Council:

- has appointed a Sustainability Manager;
- is developing a city strategy for sustainable development;
- is linking its asset management planning to "Tomorrow's Manukau", the vision of where local people want the city to be in the future; and
- has adopted region-wide plans to ensure that local planning fits in its context. Regional plans include the Auckland Sustainability Framework, the "One Plan", the Auckland Regional Growth Strategy, and Regional Policy Statements.

The best have good asset information, but they also use it well

We stated in Part 2 that good quality information is an asset management essential. Keeping "on top of it" – so that the information remains current – is equally important. Further, as contractors are often doing much of the day-to-day work on behalf of councils, working effectively with partners can help maintain data quality.

The best organisations use their information well to make better decisions on how they manage the assets. This might mean being clear about minimum standards that the assets have to meet or working with partners to maximise opportunities to add to or verify data. It might mean being clear about critical assets, and how they need to be managed differently, or taking a range of factors into account when judging the appropriate asset intervention – such as whether to maintain or replace, and so on.

Case study 3.6

Wellington City Council – Asset information is best kept up to date by working effectively with partners

Wellington City Council has a sound approach to data collection, working closely with its partners and contractors to identify asset age, physical description, condition, and performance.

For water services in the city, the Council works in partnership with Capacity Infrastructure Services Limited to collect data and ensure that its databases remain up to date. The approach to data collection includes:

- incorporating new, renewed, and vested assets into the asset information system through as-built drawings passed through Capacity Infrastructure Services Limited as part of signing off capital works;
- the Customer Event Manager communicating with contractors who verify asset information during their work, as well as updating records about maintenance and renewals as the work is done;
- a structured rolling programme of condition assessments with 16km of critical drains inspected annually; and
- manhole inspection forms to verify data against records each time an inspection chamber is opened.

As a result of these controls over its data, the Council can be clear about the reliability of its data. Knowing that data is reliable helps the Council to be clear about how reliable its planning is likely to be. This minimises the likelihood that a large and complex network of assets will throw up any nasty surprises throughout the year.

Wellington City Council's asset criticality ratings

Criticality	Description of drains
A (2% of the network)	Where collapse is the most expensive and disruptive to repair: • pipes > 375mm diameter (excluding the interceptor); and • brick drains.
B (8% of the network)	Where collapse will have high cost and social impact, includes: • earthenware and asbestos pipes under buildings; • drains under arterial roads, railways, and the airport; • rising mains; and • the old interceptor.
C (8% of the network)	Where collapse will have medium cost and social impact, includes: • remainder of pipes under buildings; • the new interceptor; • wastewater drains > 225mm in diameter; • stream crossings; and • drains deeper than 5 metres.
Non-critical (82%)	Managed on an as-required basis.

Case study 3.7

Wellington City Council – Asset condition is only part of the story – taking other factors into account helps ensure that assets are renewed close to the optimum time

Wellington City Council has followed good practice by assessing the condition of its assets. It has a formal asset condition grading system in place. This includes a condition grade profile that distinguishes, for example, between pipes of different materials. It uses this to inform maintenance and renewals planning. However, asset condition is only part of the story as the Council strives to renew its assets at the optimum time.

The Council's approach to wastewater planning provides a good example of how to use condition information effectively in planning work on assets.

Taking into account a range of factors provides a sound basis for forecasting the cost of future renewals

Wellington City Council's renewal planning is informed by both the remaining useful life of the assets and good quality information on their condition. The Summary Wastewater Plan sets out the basis for asset renewals, stating:

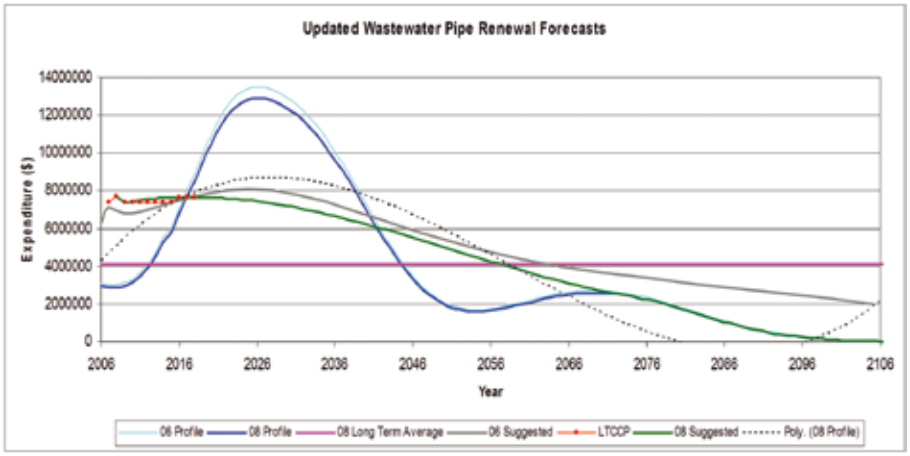
> *Longer-term asset renewal needs are identified through analysis of condition assessments. More detailed, shorter-term prioritised programmes are developed with reference to failure history, risk assessment (including consideration of financial, environmental and social implications of failure), and, in the case of critical drains and plant items, CCTV* and visual condition assessments and site inspection information. Assets are therefore renewed when analysis indicates it is more cost effective in the long term to replace rather than continue to maintain it.*
>
> ** Closed-circuit television.*

To inform longer-term renewal planning, the Council has developed a 100-year "renewal curve".

This allows an analysis of renewal and financial planning options that extend beyond the LTCCP time frames. For example, in the diagram below, the magenta line indicates how spending could be spread consistently for the 100-year period in an ideal world with a controlled environment and no influences from external or operational factors.

In reality, the generation of renewal-based work from requests for service, asset failures or investigations, affects the amount of renewals that are actually carried out – this is reflected in the red line which reflects the Council's undertakings in reducing the sharper effects of the blue renewal "profiles".

The blue "profile" lines take into consideration the age of the asset, results from condition surveys, and any proposed renewals programmes.



Case study 3.8

Upper Hutt City Council – Being clear about the minimum condition that is acceptable, even if the assets are still serviceable, helps meet the local community's expectations

Five-point scales for recording the condition of assets are well used by councils across the country. The *International Infrastructure Management Manual*[4] includes guidance on a number of such scales. Most councils focus their renewal efforts on assets at condition ratings four and five. Upper Hutt has gone further. The Parks and Reserves Plan sets out a defined five-point scale for grading asset condition. However, the Council has decided that the lower condition ratings are unacceptable for assets in the city's parks. "The asset condition rating of fair (3) has been identified as the acceptable minimum asset condition for Upper Hutt Parks and Reserves."

4 National Asset Management Steering Group, Association of Local Government Engineering NZ Inc (2006) 3rd edition (Version 3.0), *International Infrastructure Management Manual*, National Asset Management Steering Group, Association of Local Government Engineering NZ Inc. (INGENIUM), pages 3.44–3.45.

Upper Hutt City Council's five-point scale for grading the condition of parks and reserves assets

0	**Non-existent** – Asset absent or no longer exists.
1	**Excellent** – Asset in sound physical condition designed to meet current standard. No work required.
2	**Good** – Acceptable physical condition but not designed to current standards or showing signs of wear. Wear has minimal impact on asset performance. Only minor work required.
3	**Fair** – Functionally sound but showing some wear with minor failures and some deterioration in performance. Minor components or isolated sections need repair or replacement.
4	**Poor** – Asset functioning but requiring a high level of maintenance to remain operational. Likely to cause a marked deterioration in performance in short term. Substantial work required.
5	**Very poor** – Failed or failure imminent. Asset life effectively exceeded and excessive maintenance costs incurred. Major work or replacement required urgently.

The best at managing assets recognise that levels of service are the absolute heart of good asset management

A plan may describe some assets, provide a rationale for their maintenance, renewal, and capital development, and forecast the finances required to pay for this work. But, without first defining the desired levels of service, it cannot be an asset management plan.

However, simply defining *some* levels of service is not enough. The best organisations are clear that levels of service are at the heart of asset management. They express them clearly, and make sure that they provide the link between the organisation's objectives and the assets. They set targets, and actively monitor performance indicators as part of the way they manage. They keep levels of service up to date, ensuring that they remain relevant and accurately reflect user needs.

Case study 3.9

Auckland City Council – Clearly putting levels of service into a performance framework makes them an integral part of the way the organisation manages

The levels of service for the Council's road network are clearly expressed in plain English – making it easy for the public to understand what they can expect. A suite of performance measures are set out against these service level statements. This is a good format – clear and easy to understand.

A series of headings – about service level statements, community outcomes, links to strategies, customers, values, performance measures, asset contributions, potential improvements, and financial impact – make it clear in one page how asset management fits the Council's performance framework.

Auckland City Council's road network levels of service

Our Road Network services

Service level statements

- Roads are safe to use and provide a comfortable and reliable means of travel.
- Stormwater is removed efficiently from road surfaces.
- Bridges and related structures are designed and maintained to provide safe access across the network.
- Road markings are maintained to provide clear delineation and direction for roads, parking, cycle, and bus lanes at all times.
- Traffic signals are designed and maintained to improve traffic flow in the roading network.
- Appropriate signage is maintained to enable safe and efficient wayfinding across the transport network.
- Adequate street lighting is maintained to enable safe and easy night driving on all urban streets.

Contributing to the community outcomes

This service level directly enables the following two community outcomes:

- Aucklanders have real transport choices; and
- Auckland is safe (e.g. well sign-posted).

Also, this service level contributes indirectly to the following three community outcomes:

- Aucklanders are healthy;
- Auckland is well cared for (e.g. road renewal); and
- Auckland is a great place for business.

Linking to Auckland City's strategies

This service level contributes to the following strategy:

- Providing transport choices – as Auckland continues to grow, Aucklanders have lasting transport choices that minimise negative impacts on the future.

Who are our customers?

Customers of this service are:

- public transport users;
- pedestrians and cyclists; and
- car, truck, and taxi users.

Core customer values

The core customer values this service aims to provide are:

- safety;
- quality; and
- quantity.

Performance measures

Kilometres of road surface renewed annually.

- Percentage of roads that score three or better on the AMEM* environmental survey.
- Percentage of major intersections with clearly visible street name plates.
- Percentage of users satisfied with the quality and comfort of ride on sealed roads.

*AMEM: Asset management effectiveness measures.

Our current performance and planned targets

	2008 result	2009 target	2010 target	2011 target	2012 target	2013-19 target
Percentage of roads in moderate condition or better	70%	70%	71%	72%	73%	75%
Percentage of roads in moderate condition or better on AMEM* Traffic Environment survey	78%	78%	79%	80%	80%	80%
Percentage of major intersections with clearly visible street name plates	New measure	Future targets will be determined once surveys confirm current performance.				
Ride quality and comfort	New measure	Future targets will be determined once surveys confirm current performance.				

The infrastructure assets that contribute to this service level	The following infrastructure assets contribute to the delivery of this service level: • the road carriageway – including the surface and sub-surface materials; • structures – including bridges, culverts, retaining walls, and seawalls; • signs and road marking; • traffic signals and associated control structures; • street lighting; and • road drainage system (kerb and channel, catchpits, soakholes and treatment devices). Each of these assets has technical performance measures defined – these are presented in Appendix 2.1. These technical measures govern the operations, maintenance, and renewal of our infrastructure.
Potential improvements in service level	Planned service level improvement projects and programmes of work include: • the Central Connector; • the AMETI* project; • Hauraki Gulf Island wharf and retaining wall programme; • Sandringham Road/Cricket Avenue projects; • Great Barrier resealing programme; and • ongoing programme of safety works. For more details, please refer to Appendix 2.1. *AMETI: Auckland-Manukau Eastern Transport Initiative.
Financial impact of service level changes	The total for the 10 years 2009-2019 is estimated at $124 million.

Case study 3.10

Dunedin City Council – Continuously reviewing levels of service ensures that they remain relevant

The Dunedin City Council has good systematic processes for developing levels of service. The annual corporate planning process starts with the councillors and the Executive Management Team holding a workshop to agree planning parameters to guide corporate plan preparation. Activity managers use a template to identify proposed changes in levels of service, and to provide supporting information (including service statements, measures and targets) and funding requirements/implications. A subcommittee of the Executive Management Team provides decisions to enable activity managers to complete the development of the pre-draft LTCCP or Annual Plan. The Council reviews the pre-draft plan and approves the resultant draft plan for consultation.

> The Council then considers community responses. Adoption of the final Annual Plan or LTCCP completes the process. To assist with decision-making, activity managers may be asked for further information about the effect of potential changes in the levels of service during the council reviews. Financial modelling is available to assist with this.
>
> The Council uses SMART (specific, measurable, achievable, realistic, and timely) performance measures that are meaningful to activities – thereby ensuring that it is measuring what matters. This promotes ownership and accountability, gives a clear work focus to the team, and drives ongoing improvement. The Council monitors its performance data through its intranet systems, with Executive Management Team reporting and review every quarter. Improvement action is initiated when there is any concern about performance.
>
> Activity management plans include past performance and show future targets graphically. The Council is working towards setting targets that reflect benchmarking information and show the difference between Dunedin and New Zealand overall. Benchmarking is helped by including key measures in the annual Residents Opinion Survey and the biennial Quality of Life Survey.

Risk management is a structured process, but needs to be real

Risk management is a technical process, and it is best to take a systematic approach. But it is also important not to lose sight of the purpose, which is to identify those risks that are the top priorities for action. Risks need to be identified (asset managers probably already know what they are), their likelihood and effect assessed, prioritised, and appropriate action decided on. Some risks can be managed, mitigated, reduced, or avoided. Some risks have to be accepted.

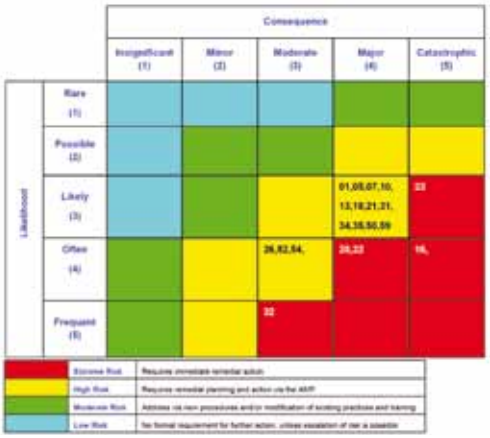
The best organisations recognise that risk management should not be overly complicated if people are to devote the time and effort needed to address the risks. The best organisations have an easy-to-use risk management framework that does not intimidate its users or have them struggling to invent systems for themselves. It frees them up to think about what the risks are and how to tackle them. It also allows risks to be easily and clearly reported to decision-makers, so that asset managers can be supported by the wider organisation in their efforts to manage risks.

Case study 3.11

Auckland City Council – Risks are best managed when they are prioritised and actions are focused on the highest priorities

Auckland City Council has a structured approach to managing asset-related risks, with excellent risk management sections in all its plans. These sections give summary risk profiles that judge effect and likelihood. Risk policies, led by the Risk and Assurance Group are used to inform judgements of risk effect or consequence. The asset management plans prioritise risks and make links between levels of service, risk assessments, and planned works.

Auckland City Council uses a likelihood/consequence matrix to put risks in context and prioritise risk management action (numbers refer to individual risks recorded in the risk register)



Auckland City Council sets out its highest risks in its asset management plans, ensuring that links are made between the risks, their consequences, and the work needed on the assets to manage them [abbreviated]

Risk summary

Risk No	Very high and extreme risks identified	Net risk factor (/25)
TRA01	**Lack of human resources** – the ability to attract key staff and or retain skilled staff	12
TRA05	**Inadequate portfolio management** – failure to deliver on commitments caused by over/under spending of budgets or deferring transport projects	12
TRA 07	**Inadequate asset management –** not up to date, or insufficient quality of process and output.	12
TRA10	**Non-compliance with legislation and legal requirements** – inability or failure to comply with consents, statute and national standards. Increase in requirements.	12
TRA13	**Moderate natural hazards** – (landslips/ major storm event) causing damage to assets and or hindering development.	12
TRA 16	**External economic influences** (cost escalations) - terrorism, rising costs, (eg fuel), pandemic, worldwide incidents.	20
TRA18	**Diminishing funding allocation** – subsidy, rate, tax, development contribution changes including change of roading status.	12

The Council sets out its critical assets in its planning. The significance of assets is apparent, and it is clear that this influences the approach to assessments of condition, maintenance plans, and financial forecasts.

Approach to asset survey by criticality group

Criticality group	Total length (km)	Survey length (km)	%
A	25.2	11.5	45.6%
B	123.7	44.5	35.9%
C	139.5	13.0	7.3%
Non-critical	744.1	6.7	1%
Totals	**1032.5**	**75.5**	**7.33%**

Source: CleanFlow, supplied by Metrowater, July 2008

Auckland City Council sets out its highest risks in its asset management plans (AMPs), explicitly stating the mitigation that has been decided and the financial implications of that mitigation [abbreviated]

Item No	Risk Category	Mitigation	Forecasts
1.	Flood hazards	Flood hazard mapping in ICS and current projects. CAPEX programme to mitigate flooding.	Part of $5.4 million pa for Management Planning (capex) $279 million over 20 yrs (capex)
2.	Increases in environmental standards	Ongoing discussions with ARC through statutory processes for the key regional plans. Changes to O&M and environmental monitoring processes.	$125k pa(opex for ALW) $340k pa (opex for sw quality and monitoring)
3.	The transparency and linkage between levels of service and level of funding	Underway with O&M projections with Stormwater AMP 08 and the 2009 long-term plan process.	Included in $270k pa SWAMP budget (opex)
4.	The quality of data on management information systems	Data improvement project.	Part of $5.4 million pa for Management Planning (capex)
5.	The effects of the City Growth Strategy on stormwater quantity and quality management	Continuation of catchment planning studies. Completion of the city-wide flood damage assessment.	Part of $5.4 million pa for Management Planning (capex)
6.	Planning and communication at the strategic level and between Council Groups	Through AMP coordination process across council; also identified as an organisational improvement in 3 year plan	Included in operational budgets
7.	Changes to District Plan and the flow-on effect for stormwater management	Active involvement by EUM and Metrowater with District Plan changes	Included in operational budgets

Optimised decision-making leads to the best solutions

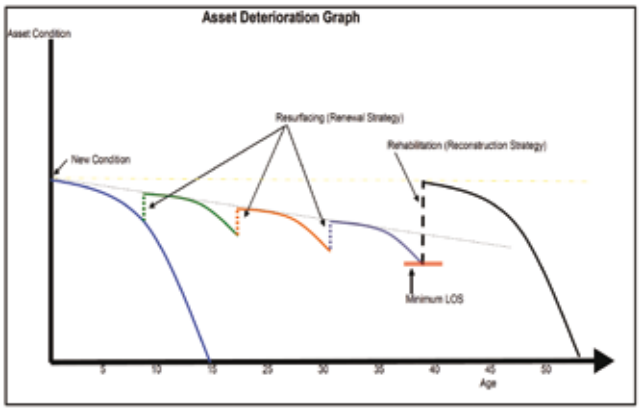
The best organisations try to optimise their decisions on major capital programmes, whether these decisions are about whether to renew assets, or on developing the assets further. They choose the option that gives them the greatest benefit or value for money across a range of factors. This involves identifying a wide range of options, and assessing them against each other using a range of criteria. A formal decision-making framework, shared by (and consistent across) differing asset groups allows an organisation to optimise its decisions across service areas.

Case study 3.12

Auckland City Council – Optimised decision-making for major capital renewals and developments is about getting best value from asset management

The Auckland City Council has a process of optimised decision-making for major projects. The Council's Project Management Office has created a multi-criteria analysis model to rank projects based on strategic and political priorities, which is used as part of the budgeting process.

An extract from Auckland City Council's Transport asset management plan, introducing the concept of optimised decision-making



The Council is developing tools to manage the overall transportation works programme. The intention is to take a "best value whole of street approach" by integrating different work types taking place across the carriageway so that all the work takes place at once in an efficient manner.

Similarly, the Council's stormwater service is using the Catchment Investment Plans (CIP) programme to identify "concept level solutions which are optimised on achieving the highest cost-benefit in solving habitable floor flooding". The Council's Stormwater asset management plan is explicit that: "Potential options for capital projects are first evaluated using an Optimised Decision Making (ODM) Tool. It uses a quadruple bottom line approach to decision-making by taking into account not only costs but also intangible benefits."

The best know the reliability of their forecasting

We have stated that it is essential for asset management to produce asset-driven financial forecasts in time for the budget. If asset managers are also clear on the reliability of their forecasts, the assumptions that underpin them, and the factors they have taken into account, decision-makers will be better informed. This in turn means that it is less likely that asset managers will be locked into unrealistic project costs too early in their planning.

A financial forecast with, say, 50% reliability, is not necessarily a poor forecast. It could simply reflect the stage of planning that a particular project is at. If decision-makers are informed that they are agreeing to a project whose costs are likely to be in a certain range, the initial decision is better informed, and future changes in cost are more likely to be understood and expected.

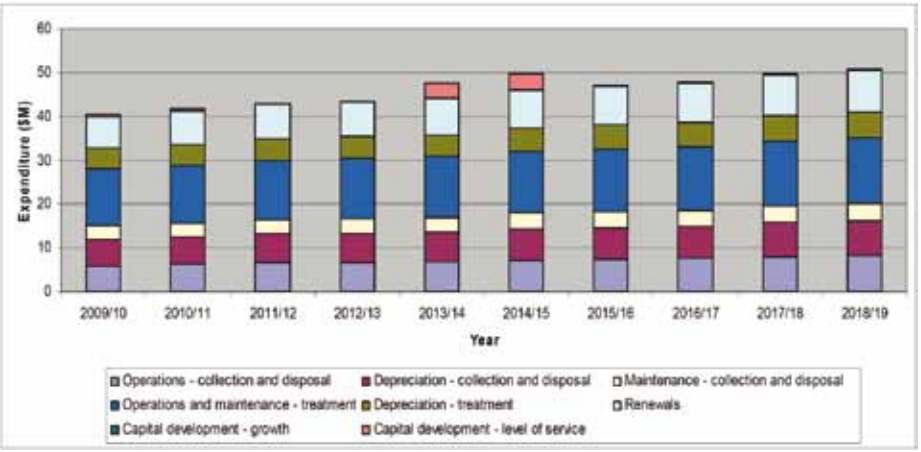
Case study 3.13

Wellington City Council – Greater certainty in financial projections comes from considering and forecasting for the factors likely to have an effect on maintenance and operating expenditure

Wellington City Council's forecast maintenance budgets reflect the age profile of the assets. For example, in its Wastewater asset management plan, the Council has assumed a "marginal increase over the planning period to reflect additional unplanned maintenance needs as the network ages". Consideration has been made for the maintenance and operations impact of adding to or changing the asset base, although the Council is working to the principle of accommodating work within existing budgets by improving efficiencies.

The Council is also clear on the factors that may affect the reliability of its planning. It states where maintenance and operating cost forecasts are consistent with historical spending and is clear in its assumptions. Among the Council's assumptions is one that: "Maintenance costs are based largely on historical expenditure and assume there are no significant changes in contract rates". Should rates change, it is therefore clear that forecasts will similarly need to change to reflect this.

Financial forecasts with breakdown by spending category



Part 4
The worst of what we found, and why it matters

The main elements of asset management planning need to be carried out together – recording and analysing information, determining work required on the assets, establishing levels of service, financial forecasting, and making links to wider service and financial planning. No element can be effective in isolation.

As we carried out our asset management audits, we came across examples where organisations' asset management was not working effectively. To help others avoid these pitfalls, in this Part we are presenting a series of case studies illustrating some of the things that can go wrong.

They are based on real examples, but have been made anonymous. Before reading these case studies, you should also consider the following points.

Insufficient interest, time, and control, to manage effectively

The Capital Asset Management Team at the Treasury has identified a number of factors that can undermine effective asset management.[5] Many of these match our own experience:

- lack of interest and support at senior management or governance level;
- a project manager without the time or skills; and
- no clear targets, time lines, role(s), or responsibilities, and no active management of how planning is going.

Failure to use resources effectively

It is clear that resources, both in terms of skilled asset engineers and finance, are limited. However, while some of the organisations we reviewed were struggling with relatively few, inexperienced staff, others were not even making the best use of the resources they did have available.

If an organisation is not making the most of its resources, this can lead to isolation. We found that some organisations seem to operate in isolation, not wanting to learn from others, or adapt, or update their approach to planning to match the latest developments.

5 The Treasury (National Infrastructure Unit) in association with the National Asset Management Steering Group of the Association of Local Government Engineering NZ Inc (INGENIUM) (2009) Capital Asset Management CAM) Leadership Training: "Towards stronger Capital Asset Management", The Treasury, Wellington, overhead slide number 13 "Reasons why the CAM team may falter" (Session 3).

Confusion about levels of service

"Levels of service" seems to be an area that many organisations struggle with, and at worst it can cause considerable confusion. The confusion seems to come in a number of forms:

- A lack of distinction between technical and customer levels of service. Customer levels of service should describe how the customer experiences the service in a way that they can understand. Technical levels of service are about how the organisation provides the service and are often expressed in terms of technical standards and specifications.
- A lack of clarity that customer satisfaction surveys, performance measures, performance indicators, and performance targets are *not* levels of service, although they are all useful elements in a performance framework. Levels of service are a statement of the standard the customer can expect. Customer satisfaction measures whether these standards are meeting the customer's expectations. They do not of themselves define the standards. Similarly, performance measures and indicators provide information on whether levels of service are being achieved. Performance targets define a planned future level of performance.
- Confusing the level of provision with the levels of service. A simple example demonstrates this. The number or length of roads that a council owns is not a level of service, but it does quantify the volume of roads provided. The levels of service will relate to the smoothness, safety, reliability, attractiveness, and so on, of those roads. However, in other services, this distinction is lost. The number of parks, libraries, swimming pools, and so on, is not a level of service, although it often seems to be quoted as one. It is, however, one factor affecting the accessibility of such facilities, which would be an appropriate level of service.
- Failure to consider service from a range of perspectives – such as quantity, availability, quality, convenience, responsiveness, environment, cost, and system efficiency – or to ensure that all aspects of a service are covered. The number of levels of service needs to be manageable, but it also needs to effectively cover the full scope of the service as its users understand and experience it. For example, parks levels of service covering only playing field maintenance standards and not paths, seating, planting, play equipment, and so on, does not cover the range of perspectives and services relevant to a park.
- Poor or missing links to higher objectives and community outcomes so that the levels of service give no indication of what the most important aspects of the service are. If an organisation's main objective is about safety, the safety of its roads is an important level of service; but, if the main objective is economic development, a more important level of service might be reliability of travel between business districts.

All of this is important because the purpose of asset management is to provide a desired level of service through the management of assets in the most cost-effective manner for present and future customers. Without setting levels of service, there can be no asset management.

Lack of external scrutiny

It was striking to note that, for many councils, the most advanced asset management plan was the one for roading (or transportation). Although this is clearly a high-value, complex asset that requires good quality planning, we found that an important driver of more advanced practice was the scrutiny that this planning gets from the New Zealand Transport Agency. We were left with two questions:

- Why is external scrutiny needed to raise performance, when good quality planning is for the organisation's own benefit?
- If external scrutiny is a key factor driving good performance, who is scrutinising the management of other critical assets such as water services, other utilities, and networks of public buildings throughout the country?

Our case studies in this Part exemplify these and other points.

Case study 4.1

Organisation A – Lack of commitment to effective planning heightens risk

This organisation does not have a policy for asset management. Although the organisation has been developing its approach since the mid 1990s, it is not yet at a level consistent with good practice guidance. The organisation has not made a decision about the level of sophistication it wants to achieve for its asset management plans. It is still compiling information about its assets, levels of service are poorly expressed, and links to other planning are weak.

The organisation was not able to meet the required timescale for producing asset management plans to support its wider corporate planning. Although lack of resources were a constraining factor, the failure to update asset management plans in support of the organisation's wider business planning suggests that commitment is not strong. It is likely that the organisation's corporate planning is at more risk than would have been the case if it had more commitment to supporting good quality asset management planning.

Case study 4.2

Organisation B – Unreliable and missing information undermines the basis for future plans

This organisation has inadequate underlying information to support the forecast expenditure included in its long-term planning for assets such as its water supplies, sewerage, solid waste, and stormwater activities. In some instances, its forecast information was inconsistent with the underlying information, and asset management plans did not exist.

As a result, the forecasts of capital expenditure and operating expenditure, including the estimates of depreciation, could be materially misstated. Also, because the forecast expenditure on its infrastructure is not supported by adequate asset management plans, the organisation has been unable to demonstrate that the forecast expenditure will deliver the desired levels of service.

As a result, the information in the prospective financial statements is not supportable, and has not been based on the best information reasonably expected to be available. This is a departure from Financial Reporting Standard No. 42: *Prospective Financial Statements*, which requires prospective financial information to be prepared on the best information available.

The organisation is unable to demonstrate, as required by section 101 of the Local Government Act 2002, that it is managing its revenues, expenses, assets, liabilities, investments, and general financial dealings prudently and in a manner that promotes the current and future interests of the community.

Case study 4.3

Organisation C – Planning not up to date means there is little rationale for programmes of work

This organisation does not have a corporate asset management policy to define its approach, and the role of asset management in the wider planning of the entity. Nor, in the absence of a policy, does it have a co-ordinated approach to asset management planning across its activities. As a result, its planning is haphazard and is updated at different times, to different standards, using differing assumptions. In turn, this makes it difficult for decisions on budget priorities to reflect the varied needs of the organisation's various assets.

We found that some of this organisation's services were not supported by up-to-date plans. One service area had not fundamentally updated its planning since 2001. It still had text looking forward to a long-term analysis of work programmes that "would" be needed over a 10-year period that was just about to end. This analysis was nearly a decade old and it is clear that, although financial forecasts had been updated, the plan's content, and therefore the basis for the financial forecasts, had not. The planning pre-dated the Local Government Act's requirement for community outcomes, contained obsolete information about the assets, and had no lifecycle asset management plan to justify planned works.

Case study 4.4

Organisation D – Planning not being joined up means budgets, works, and levels of service are not linked

This organisation reviewed three aspects of its planning at the same time – its budgets, its planned works, and its levels of service. However, rather than these reviews being done in an integrated way, each was carried out in isolation in different parts of the organisation. Although individually each piece of work was good, the lack of integration between all three meant that the organisation's plans were not well co-ordinated.

As a result, the asset management plans were not based on the levels of service that the organisation was planning to describe to the public. A levels-of-service review had been carried out separately from asset management planning. The policy officers leading this review intended to just restate the existing levels of service in a more understandable way. However, the asset managers were not involved and it was impossible for the asset managers to judge whether the work planned for the assets was appropriately targeted to support the updated levels of service.

Secondly, and perhaps of more significance, the organisation carried out its budget process separately from its asset management planning. As a result, it was not clear that the financial forecasts, particularly where cuts were made, took into account the factors such as renewal profiles, capital developments, and assumptions about future maintenance needed to manage the assets effectively against the levels of service.

It was not clear how asset management, levels of service, and financial planning were related. The organisation could not be sure that the information it had on its assets, and the lifecycle asset management plans that had been developed, would deliver the new levels of service, or be effectively funded under its financial forecasts. Where cuts were necessary, the organisation had not accompanied them by cuts in planned work or reduced levels of service, or considered the risk to the levels of service from reducing or deferring work.

Case study 4.5

Organisation E – Deferred maintenance today stores up a problem for the future

Ongoing deferred maintenance and a high volume of unplanned maintenance is not a desirable position. The added complexity of a declining population that results in a reducing potential for future residents to pay, strongly suggests that this organisation is not taking a strategic long-term view of managing its assets.

As a district council, this organisation's approach to roading maintenance saw approximately 65% of its work as part of planned programmes, and 35% as reactive or unplanned. This is about the split we would expect between the two types of work. However, there is a significant volume of deferred maintenance in other areas. The wastewater maintenance mix, for example, was skewed to an undesirable 25% planned and 75% unplanned. It is unlikely that reactive maintenance of this sort provides such good value for money or is as effective at keeping the assets in good condition as taking a planned approach. This poses a risk to levels of service and means that the assets are unlikely to be renewed at the optimum time to minimise their whole-of-life cost.

Case study 4.6

Organisation F – Not striking the right balance between affordability and investing for the future can lead to financial risk

This organisation's past financial strategy had been based on keeping rates increases as low as possible. However, because of the capital works needed in the future, the debt levels in its financial forecasts breached its own treasury policy. The organisation's plans were not financially prudent.

The organisation faced a fundamental issue – its inability to fund its forecast expenditure. It had not struck the right balance between delivering services over the long term (taking into account the anticipated level of growth), and funding this growth in a financially prudent manner.

The organisation initially decided that reducing forecast expenditure to within prudent borrowing levels would not be delivering responsible outcomes to the community, and would merely result in making a known fiscal issue worse if deferred. However, to be financially prudent and sustainable, the organisation had only three broad options – to:

- further reduce the capital expenditure programme to bring debt down;
- increase the revenue base to fund and/or retire debt; or
- reduce operating levels of service.

After consultation, some non-urgent capital projects were delayed, while some other projects were brought forward. This was a more prudent financial strategy.

Part 5
The most effective improvements you could make

Asset management is a large and potentially complex subject. With limited resources, it is important to prioritise which aspects to develop first. We have identified a series of the most effective improvements you could consider without needing a lot of additional resources.

Make it matter

Asset management must become part of the culture – "the way we do things around here". It is fundamental to planning effectively and it needs to be recognised as such. It is not something to be done only to comply with legislation. Leaders need to make sure they "buy in" to the process, the reason why it is important, and the value of its outputs. This is not costly. It is a change of mind-set.

Case study 5.1

Wanganui District Council – Making good links to the wider aims of the organisation means asset management planning is integral to achieving objectives, not just something to keep the auditors happy

Wanganui City Council's plans clearly set out strategic links. This helps in two ways:

- first, from the top down, the strategic direction that the Council has set gives service managers something to plan towards; and
- secondly, from the bottom up, the Council is able to show how its individual services are planned and managed in a way that contributes to its overall aims.

For example, the Parks Facilities Plan is clear that the activity links to the Council's:

- vision of a family-friendly Wanganui – the "preferred place for my family home";
- mission to make Wanganui an attractive place for families and to ensure a quality of life for all; and
- goals of promoting the social, economic, environmental, and cultural well-being of the Wanganui district by encouraging:
  - economic opportunities;
  - a good image and sense of identity;
  - a safe community;
  - good health-care services;
  - connectivity;
  - community networks;
  - quality educational opportunities;
  - quality and affordable housing in contemporary family neighbourhoods; and
  - access to recreational and cultural activities.

The clear way that the vision, mission, and goals are expressed helps service managers to see how their services, and the assets that support them, fit in.

Case study 5.2

Hutt City Council – Being clear how technical standards affect planning means that plans can flow through into contracts and performance management

Hutt City Council has compiled a set of technical performance measures to assist and guide its asset management practices. It has integrated these into its asset management plans. For example, its Parks and Reserves Plan sets out "Activity Standards", which are used to measure "the overall performance of the reserves, horticultural parks, playgrounds, sports-grounds and cemeteries". Similarly, "the overall performance of the water supply activity is measured in terms of activity standards", which are, again, set out in the plan. From these standards, the Council has developed performance measures, which it uses as the basis for:

- targets contained in maintenance contracts; and
- personal staff objectives.

Make it fit

An effective organisation needs to recognise that asset management is an integrated process – it cannot carry out elements of it in isolation. No one part should happen without the others, and no one part is intrinsically more important than the others. It is a multidisciplinary process that involves engineers, financial and corporate planners, and policy makers. They need to work together.

Case study 5.3

Dunedin City Council – Good use of groups results in a co-ordinated approach, which means the organisation can be confident that all its planning is being done appropriately

Dunedin City Council co-ordinates asset management through its corporate asset planning function. The function is responsible for asset management development and implementation, and is supported by activity managers who form an Asset Management Working Group. The Council has a corporate Asset Planning Manager who chairs this group.

Wherever possible, the Council uses its in-house staff to carry out asset management, and individual service departments are formally responsible for their Activity Management Plans. However, the Council also recognises where its expertise is limited. External resources are used where there are skill gaps or specialist experience is needed in technical areas such as transportation modelling.

Asset managers work together and with corporate departments to develop information into a format suitable for asset management. They have linked a population model to Dunedin Geographical Information Service, which has a layer for population/growth and residential capacity.

Support it

Having a champion or someone to co-ordinate asset management can really help. Sometimes it can be better if this is *not* someone actively involved in managing the assets. They tend to be too busy managing day-to-day works. Their professional and technical skills are in short supply and are highly sought after. It is probably best for the co-ordinator to be someone with good co-ordination or project management skills.

When asset management is co-ordinated across the organisation:

- all asset management plans fit with the organisation's planning assumptions; and
- asset management plans provide robust business information for the wider business planning process.

Case study 5.4

Palmerston North City Council – Making organisational structures work for the assets makes planning easier

The way the Palmerston North City Council is structured allows the strategic direction and asset management policy to be led by the City Networks unit but in conjunction with the City Future and City Corporate units. They work together on agreeing review time frames, approaches to community consultation, audit, and review.

Within the framework that the policy provides, City Networks is continually improving its asset management skills, processes, and systems, and developing more sophisticated tools and advanced asset management techniques as resources allow.

An overall infrastructure asset management plan review has been part of an eight-month project led by the Asset Management Co-ordinator. Senior City Networks officers are actively involved in various groups to link asset management planning with the urban growth strategy and district planning. There is a specific co-ordinating group for the 10-year plan.

Make it easy

Managing the assets might be a complex, technical business, but writing the asset management plan itself does not have to be difficult. Good use of templates, guidance, clear standards, and keeping it concise all help to keep the task of writing a plan manageable.

Case study 5.5

Dunedin City Council – Good use of templates and guidance gets a co-ordinated approach and makes everyone's life easier

Dunedin City Council uses an asset management plan template with supporting guidelines for all its activities. These templates prescribe the minimum level of details for all activities and recognise that not all assets require the same level of planning.

The Council has improved its asset management planning processes since it introduced the template approach. It has also developed a benchmarking framework that aligns with the Auditor-General's definitions of "core" and "advanced" asset management levels,[6] which helps individual managers identify areas for further improvement.

The Council is using the benchmarking review to determine the level of sophistication for each of its plans against the level it aspires to. It intends for all its plans to be at least "core" level, with some having characteristics appropriate to advanced plans.

Keep on top of your asset information

Good quality asset management relies on good quality asset information. However, asset information can be costly to gather and can quickly become out of date. Regular condition assessments are expensive, and many smaller organisations struggle with the cost of keeping asset information up to date. The key is to continually maintain the information, regularly updating it as new intelligence become available.

Case study 5.6

Wanganui District Council – Taking a cost-effective approach to keeping condition information up to date helps ensure that planning has a sound basis

Wanganui District Council has a structured approach to assessing the condition and performance of its assets. In common with most councils, data on road condition is collected through road roughness and condition rating surveys. Assessment is focused on critical assets, and more frequent inspection of arterial and collector roads.

However, it is in its parks planning that the Council has taken an innovative approach. Condition and performance ratings are allocated to all parks facilities assets, and the asset management plan sets out the assessment regime that is in place. Base data on the condition and performance of equipment in the city's parks is collected by thinking innovatively about what work a trained carpenter could do while on light duties, having returned to work following injury. With his technical skills and knowledge, the carpenter was well placed to assess the condition and current performance of parks equipment. The Council found that this was something the carpenter could cope with physically while adding real value to the Council's ability to plan effectively. A programme is planned to keep condition assessments up to date, targeting a sample of assets as well as using planned maintenance as an opportunity to gather data.

The Council uses condition assessment, performance assessment, and the resulting remaining useful life of the asset as a basis for its maintenance and renewals decisions.

6 National Asset Management Steering Group, Association of Local Government Engineering NZ Inc (2006) 3rd edition (Version 3.0), *International Infrastructure Management Manual*, National Asset Management Steering Group, Association of Local Government Engineering NZ Inc., page 2.11.

Case study 5.7

Wanganui District Council – Taking a structured approach to its process of recording changing asset data

Recording relevant asset data for inclusion in the asset register can be expensive and difficult, given the range of possible data to collect. Wanganui District Council uses an innovative technique to ensure the recording of only essential data, which provides added value to asset managers. An electronic form (ADR) has been developed to capture data on assets that has been acquired, added, disposed of, or replaced. This form self-populates with current asset information when the asset identification is entered. The asset manager can then alter any existing data as required, and send the form to the asset management team for updating of the asset register. This provides an auditable trail of data updates.

Wanganui District Council's ADR form

Community Facilities Asset Management

Acquisition / Addition / Disposal / Replacement Form

- ☐ Acquisition (complete Sections 2 & 3 only)
- ☐ Addition (complete Sections 1, 2 & 3)
- ☐ Disposal (complete Sections 1 & 3 only)
- ☑ Replacement (complete Sections 1, 2 & 3)

This form must be completed for every new or existing asset. (Refer to notes - bottom left)

	Section 1	Section 2
Asset ID:	**PK2030**	**PK2030**
Location:	Bason Botanic Gardens	
Road Name:	Rapanui Rd	
Asset Group:	Structure	
Asset Component:	Wall - Retaining Timber	**Wall - Retaining Crib**
Material:	Full Round	**Concrete Crib Blocks**
Description:	Retaining	
Position:	Olive lawn by Millennium Hill	
Month Installed:		**March**
Year Installed:	1990	**2009**
General Comments:	0	
Unit:	sq m	**sq m**
Quantity:	45	
Construction Value:	$2,745	**$4,532**
Vested Date:	$0	
Vested Value:	$0	
Reason for Replacement / Disposal		

Section 3

Information supplied by: **D Kerwin** Date: **20 Mar 2009**

Information verified by: Date:

Notes:

1. **Section 1 - select "Asset ID" only from 'Drop Down List'.**
2. **Section 2 - Enter new or changed information only.**
3. **Section 3 - "Supplied by:" is the Council Supervisor.**
4. **Section 3 - "Verified by:" is the Council Supervisor's Manager.**
5. **Information accuracy is essential.**

For Asset Management use only

Date Updated:

Updated by:

Make performance management real

Gathering performance data can seem like a time-consuming, bureaucratic exercise. It is a pointless waste of resources unless the resulting information is useful. It should:

- provide managers with the information they need to make decisions; and/or
- help guide and manage asset-related staff; and/or
- provide information to the public and other stakeholders about the services they are getting.

Tracking performance over time puts it in context and presents a much richer picture than a single year's data in isolation. It shows trends so managers and the public alike can judge how good performance is locally and whether it is improving. Once that is known, decisions on what to do next are better informed.

Case study 5.8

Dunedin City Council – Effectively managing the performance of asset-related staff means that the Council makes asset management part of "the day job"

Dunedin City Council has a clear and holistic performance management framework for strategic planning, operational management, and personal development, which is set out in its asset management plans. This provides an integrated, systematic, and logical flow to:

- link the Council's activities to outcomes and well-beings;
- align all aspects of an activity's key result areas, and link them to meaningful performance measures and targets that will provide minimum service standards; and
- link all aspects of an activity's key result areas to the required team resources and individual day-to-day contributions of each and every member of the Council's staff. This then forms the basis of individual performance management and development assessments that involve feedback and review.

In this way, individual staff can clearly understand what the Council is trying to achieve and their own unique contribution to delivering this. It is important to the Council that performance measurement is used to facilitate better organisational understanding, to direct improvement action, and to be positive not punitive.

This cascading process is supported by the key corporate teams of Asset Planning, Business Improvement, Financial Analysis, Human Resources, and Policy Analysis. This ensures the alignment of asset planning with performance measurement, financial management, and strategic planning.

Case study 5.9

Hutt City Council – Taking a range of factors into account in developing levels of service, and tracking them over time makes performance management real

Performance expectations for the water supply service are detailed by Hutt City Council and the service management company, Capacity Infrastructure Services Limited, in each asset management plan. These "activity standards" provide a clear link between community outcomes and council objectives, and works programmes. The activity standards cover the following service categories:

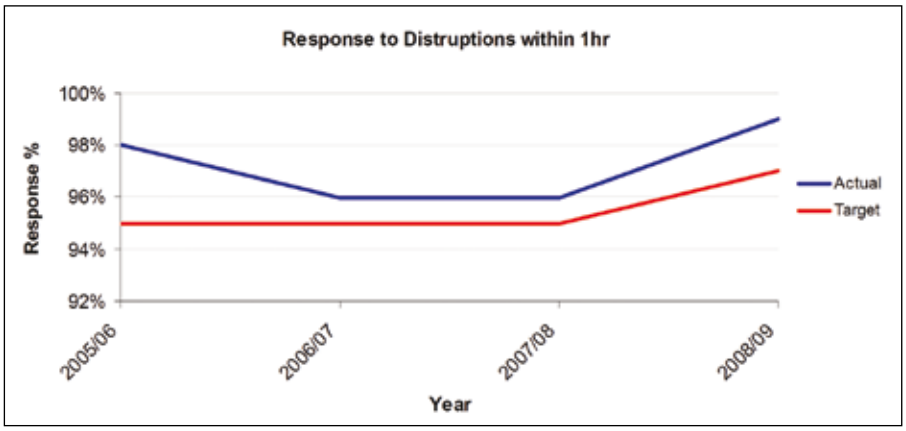
- service quality;
- customer focus;
- cost-effectiveness;
- environmental performance; and
- legislative compliance.

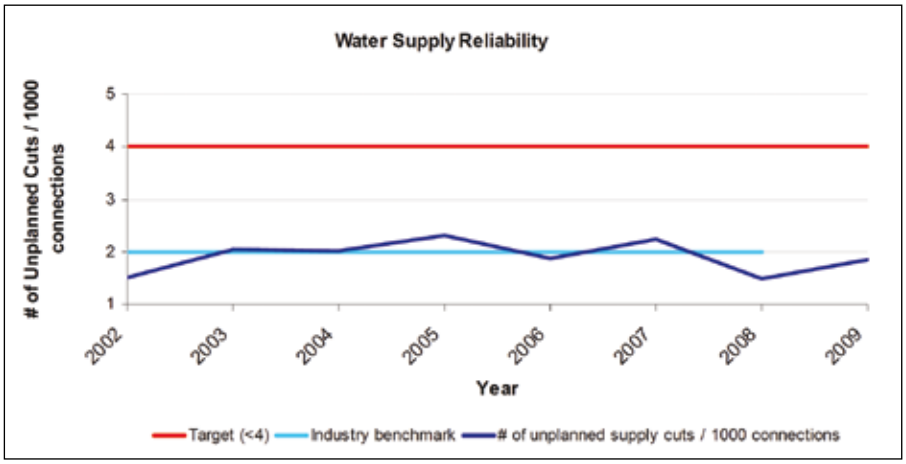
This approach provides the Council with a high degree of confidence that the water supply network is achieving the desired level of service, and is making a meaningful contribution to the community's well-being.

An example of performance over time – Some indicators of customer focus

Wastewater

Water supply





Use it to make more informed budgetary choices

The outputs of asset management should drive the budget. The budget should not drive asset management practice. If it does, backlogs of maintenance and renewals, sub-optimal solutions, short-term thinking, and risk often result.

Manage risk but do not over-complicate

Using a consistent risk management framework across the whole organisation is helpful. Individual asset managers do not have time to develop their own approaches, and if they do, they are likely to be inconsistent. Such inconsistency will make it impossible to compare risks across services and identify the highest priorities to manage corporately.

Do not over-complicate risk identification and the assessment of likelihood and impact. A workshop of staff from different functions is often a good starting point.

Case study 5.10

Rotorua District Council – Linking risk management to levels of service makes it more likely that they will be delivered and that unforeseen circumstances will not adversely affect them

Rotorua District Council has carried out an independently facilitated risk management analysis of all of its major asset groups. As part of its Integrated Risk Management (IRM) framework, the Council is consistently identifying, analysing, evaluating, and treating risks to delivering the levels of service set out in the asset management plans. The IRM framework explicitly links activity and asset management decision-making to community outcomes through the levels of service.

Once identified, risks will be monitored and reviewed. The Council's asset management plans each include a comprehensive risk register, showing the links between the risks and the levels of service.

The IRM framework being adopted within Council will enhance the Council's ability to demonstrate practical integration of sustainability into the operation of the Asset Group.

Manage demand

Considering factors other than just demographics will significantly improve the assessment of how changes in demand will affect the assets. Assumptions should be consistent across the organisation. Planning needs to consider a range of demand management options. Sometimes you can save investing in further assets and incurring the ongoing costs of maintaining them.

Part 6
Things that look good but do not add value

In our audits, we saw a range of things that initially looked good, but on further investigation turned out not to add value. We highlight a number of them here so that you can avoid these pitfalls and the resources they consume.

Incomplete templates

There are a lot of templates for asset management plans available in the market. Some are generic blanks for asset managers to complete themselves. In other cases, consultants will tailor the template to an organisation and write some or all of the plan (using the client organisation's information). However, there is no one right size or structure for an asset management plan. What is important is that the finalised plan is an appropriate length to include everything it needs to meet legislative requirements and manage the assets effectively. Anything more than that is putting wasted effort into padding that might make a plan look weighty and impressive, but does not add value. Indeed, it can actually reduce value by making the plan less usable (and more intimidating to keep up to date).

Some of the best plans are relatively brief. The ones that looked good at first glance, but turned out not to be, typically used a good-looking comprehensive template but had left parts of it blank. If an organisation goes to the cost and effort of purchasing, commissioning, or developing a template, it should ensure that it is fit for purpose. Once it is, every section should be completed and kept up to date.

Generic content

Generic content that looks good but does not add value often finds its way into asset management plans. Typically, this happens when the template has a heading indicating that a (few) paragraph(s) should follow, but there is actually very little locally to write about. This is similar to the "flashy" template with blank sections problem.

Some aspects of planning that can suffer from low-value generic content that takes a lot of space to say very little about the particular place or assets covered by the plan are listed below.

Links to other strategic planning

Here, a lot of space can be taken up describing the theoretical links that should be made between various aspects of the organisation's strategic and operational planning without saying anything specific about where the particular asset group fits in.

Sustainability

Many organisations are struggling to clearly describe their approach to sustainability or sustainable development. However, because good practice suggests that sustainability should be addressed in an asset management plan, many asset managers feel that they have to say something. This is reinforced for councils because the Local Government Act 2002 requires them to take a sustainable development approach. In the absence of anything specific to say about how the particular assets are managed in a sustainable way, many plans fill space with a general discussion of sustainability, general issues for the service area, or some general examples of what the council is doing in some "obvious" environmental areas, not necessarily directly related to the core assets in the plan. This might include content covering recycling facilities at sports centres, native planting in road medians, and so on.

Growth and demand

A lot of the content we see in the growth and demand sections of plans covers forecast changes in population. That is to be expected. Forecast population changes are readily available from Statistics New Zealand. However, population is only one factor affecting the assets, and it should not be over-emphasised. There will be a range of influences on the level of demand for services and the assets supporting them. These might include changing tastes (more soccer fields, fewer rugby pitches), lifestyles (more water used for washing boats and so on), expectations (footpaths where there were previously none), and household make up (more single-person households – each with connections to utilities). Some changes in population may have little or no effect on the assets (for example, roads with excess traffic capacity could cope with a large population increase with very little effect on the roading assets).

Optimising the "maintain or renew" decision

Many plans have graphs showing the performance or condition of assets declining over time, while the maintenance costs of those assets rise over the same period. Often they identify some theoretical point at which intervention puts the asset back to peak performance, never declining further than the point at which intervention is most cost-effective. However, while this looks good in theory, it does not add value unless it is clear what it means for work on the particular group of assets covered by the plan.

Risk management

It is not always clear how risks are managed at asset level. A lengthy discussion of general approaches to risk management covering risk registers, analysing the likelihood and effect of risks and the various treatment options from acceptance of risks to management, mitigation, and avoidance can take up much space in a plan, particularly if illustrated with example tables and traffic-light coloured matrices. What would add more value is a simple identification of the top priority risks affecting the assets and what the organisation is doing about them.

Long plans

Generic content can lead to our next issue, the big, thick, weighty plan. It can initially look impressive but ultimately does not add value. There is no denying that asset management can be a highly technical subject that applies to complex networks of assets, and there is a lot of detail involved. However, that does not necessarily mean that a long plan is a good plan. Indeed, to be a plan at all, a document needs to be usable. Long plans are often not used in practice because they can be difficult to read. As noted earlier, they are also intimidating to keep up to date as each revision becomes a major exercise. This in turn makes them less useful as they become out of date.

Optimised decision-making that does not come up with the optimum solution

Optimised decision-making (ODM) is about making trade-offs between alternative courses of action. It provides a way of assessing which is the best or optimal decision to meet the objectives with the available resources.

Despite the *International Infrastructure Management Manual* stating that ODM is not solely an advanced asset management activity,[7] many organisations regard it as such. It may look good to have an assessment model and call it optimised decision-making, but it will not maximise the value it adds unless it truly identifies the optimum solution. Models with limited value:

- do not evaluate a range of options against each other;
- do not consider non-asset solutions;
- do not identify all or even a wide range of potential benefits, costs, and risks;
- include far less rigour in some parts of the analysis than in other parts; and
- do not consider priorities across different service areas.

7 National Asset Management Steering Group, Association of Local Government Engineering NZ Inc (2006) 3rd edition (Version 3.0), *International Infrastructure Management Manual*, National Asset Management Steering Group, Association of Local Government Engineering NZ Inc. (INGENIUM), page 3.77.

Part 7
What should you be talking to your community about?

Assets support services for the community. Local people and other service users can give good feedback on their priorities, the local context, and what they want for the future to help inform your planning.

Their priorities

There is a wide range of ways in which a group of assets could be managed, developed, enhanced, reduced, and so on. Aspects of how they are run could be more or less important, depending on the objectives that they are supporting. The users of assets could be quite different from the people whose taxes pay for their upkeep (for example, the roads and parking in some of our main urban centres). Similarly, there could be a range of customer types, each with their own opinions, expectations, and demands.

Talking to the community of stakeholders is a good way to balance some of these issues and make decisions on priorities.

Case study 7.1

Waipa District Council – Making the links between the assets and the community outcomes means the organisation can ask: "Is this what you want us to do?" – in real, practical terms

In Waipa District Council's planning, links to community outcomes are well made and strong. Its asset management plans are explicit about the community outcomes that they support. Detailed tables show how the activity contributes to community outcomes. The Council uses tables in its plans to translate its community outcomes into what they mean in practice for the people of Waipa, and the services that the Council delivers.

An example of how Waipa District Council describes the link between its community outcomes and the Transport Management Service

Community Outcomes and Linkage to Levels of Service

Community Outcomes	How the Activity Contributes	Level of Service	Focus	How We Measure Our Performance	Performance Target 2009/10	2010/11	2011/12	2012-19	Current Performance
Economically Secure Waipa	Public buildings are accessible to people of all ages and abilities, and signage is clear and visible	By ensuring road signage and car parking provided are safe and accessible and have regard for our aging population	All signs and markings meet relevant transport authority standards	Tech	% Compliance with standards	Standard found by audit to be set as minimum	Standard found by audit to be set as minimum	Standard found by audit to be set as minimum	Standard found by audit to be set as minimum	Complete initial audit of the network within 12 months
			Car parks meet user needs	Cust	% of residents who are satisfied with the formal car parks	71%	71%	71%	71%	71%
				Tech	% rehabilitation projects completed by 30 April each year	85%	85%	85%	85%	70%
				Tech	% programmed reseal sites completed by 30 April each year	95%	95%	95%	95%	90%
	We have reliable, efficient and well planned transport infrastructure systems that provide easy access to and through our towns	To ensure we have a reliable and efficient transport infrastructure we develop a forward programme based on condition, performance and satisfaction levels	The roads are well planned and maintained to ensure they are reliable and efficient	Tech	AMP and transport strategies are reviewed & adopted by council every 3 years	Updated and adopted			Updated and adopted 2012/13	Not adopted
				Tech	% compliance with quality standards (NAASRA) for smoothness[1]	Urban 82% Rural 82%	Urban 85% Rural 88%	Urban 78% Rural 85%	Urban 78% Rural 85%	Urban 84% Rural 95%
				Cust	Pot holes are repaired within 14 days of notification	100%	100%	100%	100%	100%
				Cust	% of residents who are satisfied with the levels of road maintenance	80%	85%	90%	80%	76%

[1] The LOS proposed for 2009-19 are below that which has previously been agreed with the community because it is no longer practical or cost effective to achieve them. The changes are not anticipated to significantly impact upon the community.

Community Outcomes	How the Activity Contributes	Level of Service	Focus	How We Measure Our Performance	Performance Target				Current Performance
					2009/10	2010/11	2011/12	2012-19	
Environmentally Sustainable Ways	We reduce our reliance on non-renewable energy	Encourages people to move away from the use of vehicles and if used to use them efficiently	Footpaths & cycleways are well maintained to ensure a safe and accessible alternative to vehicle use	Cust	% of residents who are satisfied with the maintenance of footpaths	80%	80%	80%	80%	82%
Healthy and Active Ways	Our communities and agencies work together so that we are safe, we feel safe, crime is reduced, and there is a zero tolerance approach to anti-social behaviour	We continually monitor the safety of our community in our Roading corridor and implement strategies to improve safety	The design & maintenance of our roads support community safety through reducing the injury crash trends	Tech	Analyse NZTA road safety issue reports	Less than or equal to peer group	Less than or equal to peer group	Less than or equal to peer group	Less than or equal to peer group	Less than or equal to peer group
				Tech	Formal crash investigation studies covering full network every 3 years	Next Survey 2010	Next Survey 2010	Next Survey 2013	Next Survey 2013	Completed 2007
				Cust	Number of fatal accidents due to road factors	0	0	0	0	0
				Cust	% of residents who are satisfied with the safety of the roads	80%	80%	80%	80%	79%
		Urban street lights are well lit at night		Cust	Lights are repaired within 14 days of notification of fault	100%	100%	100%	100%	100%

The local context

Assets support services in a local context. A swimming pool in a suburban area is likely to be very different from one in a holiday destination. The two will be provided for different reasons, and have a different mix of users expecting a different range of facilities. What might be, for example, good levels of service, facilities, and maintenance standards in one location might be quite inappropriate in another context. However, it is equally important not to make assumptions about this context. Local people are well placed to provide a more informed view.

Case study 7.2

Thames-Coromandel District Council – Seeing asset management in its local context means that the organisation can talk to local people about issues that they understand and are interested in

Thames-Coromandel District Council's vision statement provides the basis for developing activity and asset management plans. The natural environment of the Coromandel peninsula and its associated leisure and recreation activities are a big driver for asset management planning.

Senior officers and councillors are involved in a series of workshops to set the Council's priorities by striking a balance between what is wanted and what is affordable. The Council has developed a risk prioritisation matrix that ensures that all capex projects are considered relative to each other and in relation to the Council's priorities. The matrix starts by assessing the overall contribution to community benefit from any particular council good or service. Projects, activities, and groups of activities can be assessed to show the contribution they make to community outcomes as an initial part of the prioritisation process. The result is that the Council is clear about its intended approach towards its major assets.

Given the influx of tourists to its district in the summer months, the Council is mindful of the need to consult with both permanent and temporary residents of the district and makes positive attempts to do so.

The Council finds that its "Community Benefit Factor" helps set priorities and clarifies the rationale for decision-making. It finds that providing good consistent evidence about community priority and benefit is powerful and significantly influences its planning.

The future

The purpose of asset management is to provide a desired level of service through the management of assets in the most cost-effective manner for present and future customers. It is important to talk to today's customers about the future for two reasons:

- first, it is likely that many of them will also be *future* customers in the short term, or have a strong interest in future customers (they are likely to be their parents); and
- secondly, decisions made today will have an effect on future customers, and it is important to consider "inter-generational" fairness – which essentially means not incurring debts or creating other problems for future ratepayers.

The future is particularly relevant when considering sustainability. Assets typically have a long life. Those constructed today will be part of the environment for some time to come, they will have ongoing maintenance needs, and their existence will limit future options for the same site or differing ways of delivering services. These are all matters for local people to take a view on.

Case study 7.3

Hastings District Council – Recognising the effect of sustainability on asset management planning means making some key decisions about the future

Hastings District Council is working hard to bring the principles of sustainable development into its planning. It has full council participation and the links are well made to the Council's assets. Not only are there examples of the Council tackling

sustainability practically through its existing services, wider thinking is being informed by the discussion document *What should the future of Hastings look like? Planning for a sustainable future*. This document outlines some of the challenges and opportunities local people face in the future and how the Council, with its partners, may need to respond to create a sustainable community. The Council sees the discussion as an important step in the preparation of future long-term council planning.

In its discussion document, the Hastings District Council poses some key questions, many with a direct effect on the way it manages its infrastructure assets

The level of service they want

Unless levels of service are informed by consultation with the users of those services, it can be no surprise if satisfaction ratings are unsatisfactory. Although some levels of service will be determined by standards (for example, New Zealand Drinking-water Standards, compliance with the Building Code, and so on), in most cases there is considerable scope for discretion in deciding what levels of service to define, and at what level to set them.

Case study 7.4

Environment Bay of Plenty – Talking to the community about levels of service and using consultation as a basis for setting levels of service gives the Council confidence that it is meeting local need

Levels of service for current rivers and drainage scheme asset management plans were developed at the inception of each scheme, but have subsequently been revisited and confirmed through stakeholder communications. These communications include:

- formal liaison meetings;
- newsletters;
- rating reclassifications;
- complaints information; and
- ratepayer feedback.

In reviewing the levels of service in asset management plans, the Council takes into account the responses it receives during LTCCP and Annual Report submissions. These submissions are documented and actioned through an existing council submission process. Minutes are taken at each River Scheme Liaison Group meeting. Where changes to levels of service are agreed, they are implemented through a revision to the relevant asset management plan.

Part 8
Why does an audit and other external review matter?

Asset management plans are not for the auditor; nor should they be written solely to fulfil some legislative obligation or a piece of Treasury guidance. Nevertheless, an audit, along with other forms of external review and scrutiny can play a part in effective asset management planning.

External review can provide assurance over the quality of planning and the information that underlies it. That is good for both asset managers (who can have confidence in their own work) and those who use asset management plans to inform their decisions. Those in governance roles are more likely to make decisions in line with asset needs if they have confidence in the quality of the related planning.

Review can also be a good source of ideas for improving asset management planning, particularly as it brings an alternative perspective. That perspective might be informed by knowledge of asset management practice in other organisations, or the disciplines of another profession. Either way, it expands the range of thinking that goes into planning.

Confidence in the quality and reliability of your planning

Case study 8.1

Auckland City Council – A well-developed approach to quality assurance and peer review gives confidence that planning is robust and working well

Auckland City Council's asset management plans are peer-reviewed, both internally and externally. Each asset management plan is signed off at various levels, including project manager, asset owner (group manager), and general manager. The Asset Management Steering Team is a signatory to the capital programme, which ensures an element of review and quality assurance of capital plans from an asset perspective.

The Council has engaged the National Asset Management Steering Group, jointly with a consultant, to conduct a "beyond the desktop" review of asset management systems to inform its planning.

There is openness to review of asset information systems. This has included a review of asset registers in the past two years, ongoing work to reconcile asset registers (in particular for the smaller asset groups), and audits of major systems. Most recent was an audit of its Road Assessment and Maintenance Management system.

Case study 8.2

Wellington City Council – Openness to external review means you can be confident that your planning stacks up against the best

Wellington City Council has an established, open, approach to peer review. All of the Council's plans have been externally reviewed over the three-year period to 2007/08, with a status assigned to each asset management plan and recommendations made. These have been incorporated into the relevant asset management plan improvement programme. This places the Council in a strong position to ensure that its planning aligns with the level of appropriate industry practice that it has determined for each asset group.

The Council has indicators and performance measures to assess the effectiveness of its planning.

Wellington City Council monitors the effectiveness of its planning

Indicator	Measure	Source of information
Compliance with legislative requirements	Unqualified audit opinion relating to asset management plan outputs	Audit New Zealand reports
Quality of services delivered	100% compliance with level of service targets	Annual Plan reporting
Quality of risk management	No event occurring outside of risk profile	Audit of risk register

Manageable steps towards an appropriate level of sophistication

Case study 8.3

Palmerston North City Council – A co-ordinated approach to improvement, with commitment from the top, gives asset managers the support they need

All of Palmerston North City Council's asset management plans have an improvement plan aimed at progressing practice specific to the particular asset group. However, where possible, improvement projects are run across all activities to ensure consistency and a similar level of advancement across the board. The improvement plans include specific projects and identify typical project details such as time, person-hours, and financial resources. The Council has a dedicated Special Projects Manager who is available to oversee implementation of these projects. The Council has arranged the skills and resources it has available to ensure that the improvement plans remain realistic. Furthermore, interest and commitment from senior management and councillors help ensure that improvement actions will occur.

The Council has a particular focus on:

- developing the scope and reliability of its asset information as a key plank underpinning its planning; and
- predictive modelling.

As a result of this focus on improvement, Palmerston North City Council has made significant progress.

Case study 8.4

Palmerston North City Council – Challenging thinking allows the Council to generate ideas for improvement

A specific responsibility of the Palmerston North City Council's Special Projects Manager is to lead the advancement of asset management planning. As part of this, specific workshops are held with asset managers to identify the gaps and scope for improving current practice, as well as can reasonably be achieved. The Council's external technical advisors are involved.

The future direction for asset management planning is guided by asset management goals and objectives that provide a sound basis for developing specific improvement projects.

Part 9
Concluding remarks

Assets underpin our country, our economy, and the services we rely on. Although effective asset management is part of good service and financial planning, it is actually far more important than that.

Public sector services are underpinned by a complex infrastructure of assets. These need to be managed so that services delivered by and through assets are effective and efficient.

From roads, water, and drainage systems to parks, libraries, and swimming pools, in many instances assets are the main aspect of public services that people experience. In other instances, assets provide the basis for delivering a service, through hospital buildings and equipment, schools, universities, office blocks, libraries, and galleries.

The purpose of holding assets varies according to the type of organisation, and the scope and nature of its activities. In the public sector, the goal of good asset management is to support delivery a level of service (whatever the service may be) in the most cost-effective manner, taking into account current and future customers.

Asset management means thinking about assets in the context of the services they are supporting, and being clear on the purpose of holding the asset. This might include supporting services today, enabling some future project (for example by banking a piece of land now so that it is available in future), or investment.

The Government sees our infrastructure, our assets, as one way to lift the sustainable growth rate of the economy by increasing productivity. It has set up a National Infrastructure Unit (NIU) within the Treasury, and a National Infrastructure Advisory Board to help improve the way public assets are managed.

Asset Management has never had this much focus, or been this important.

Appendix
Some definitions

What is asset management for?

The purpose of asset management is to provide a desired level of service through the management of assets in the most cost-effective manner for present and future customers.[8] This definition recognises that asset management is also about the long-term sustainability of assets and the services they support.

What is an asset management plan?

The Royal Institution of Chartered Surveyors defines an asset management plan as:

> *A plan covering the organisation's asset strategy together with other related matters, for example, the organisational structure and governance, roles and responsibilities, data and performance management arrangements and performance measurement information.*[9]

What is lifecycle asset management?

Lifecycle asset management is the cycle of activities associated with planning for, creating, operating, maintaining, replacing, rehabilitating, and disposing of assets.[10]

Is there a difference between infrastructure and non-infrastructure assets, and does it matter?

Infrastructure assets are characterised by some particular features:

- they are often found in a network that serves a defined community – for example, a road network, water supply, or group of leisure facilities;
- the system as a whole is intended to be maintained indefinitely, even if individual assets or components within it are replaced or upgraded; and
- they deliver a service to a particular level.

Non-infrastructure assets (for example, an office building), although they might stand alone rather than being part of a network, are still important. Just like infrastructure assets, they deliver a level of service and need to be managed. In that sense, the distinction between infrastructure and non-infrastructure assets is not important.

8 National Asset Management Steering (NAMS) Group, Association of Local Government Engineering NZ Inc (INGENIUM) (2006) 3rd edition (Version 3.0), *International Infrastructure Management Manual*, National Asset Management Steering Group, Association of Local Government Engineering NZ Inc. (INGENIUM), page 1.3.

9 Jones, Keith and White, Alan D (editors) (2008) *RICS Public Sector Asset Management Guidelines: A guide to best practice*, Royal Institution of Chartered Surveyors, United Kingdom, page ix.

10 The Treasury (National Infrastructure Unit) in association with the National Asset Management Steering Group of the Association of Local Government Engineering NZ Inc (2009) *Capital Asset Management (CAM) Leadership Training: "Towards stronger Capital Asset Management"*, The Treasury, Wellington, overhead slide number 7 "Definition of Lifecycle Asset Management" (Session 1).

Asset management glossary

To assist your reading (of this publication, and asset management plans), we have defined the following terms that you will find in the notable examples throughout this publication.

AMP: asset management plan.

As-built: refers to a survey or drawing of the actual assets that have been constructed, recognising that they can sometimes vary from what was planned before work started on site. As-built drawings are needed to ensure that asset information systems contain data on the asset as it has been constructed, not how it was planned in theory.

Capex: stands for capital expenditure. The Royal Institution of Chartered Surveyors defines capital expenditure as: "one-off expenditure on major items which have a life of longer than one year (e.g. land and property) … with current expenditure implications".[11]

Community outcomes: Under section 5 of the Local Government Act 2002, community outcomes "means the outcomes for that district or region that are identified as priorities for the time being". Community outcomes are what New Zealanders want for their local community, now and in the future. Assets have a role in supporting the achievement of those aims.

Condition assessment: Condition assessment is the systematic process of gathering data on the physical state of assets. It often involves gathering data on a sample of assets and interpolating the condition of others with similar characteristics.

The *International Infrastructure Management Manual* says that "asset condition reflects the physical state of the asset, which may or may not affect its performance. … The performance of the asset is the ability to provide the required level of service to customers".[12] Condition is therefore different from asset performance.

Critical assets: are those assets with a high consequence of failure.[13] They are often found as part of a network, in which, for example, their failure would compromise the performance of the entire network.

Critical assets should be formally identified as such in an asset information system so that their significance can influence planning. Because of their importance, their management

11 Jones, Keith and White, Alan D (editors) (2008) *RICS Public Sector Asset Management Guidelines: A guide to best practice*, Royal Institution of Chartered Surveyors, United Kingdom, page x.

12 National Asset Management Steering Group, Association of Local Government Engineering NZ Inc (2006) 3rd edition (Version 3.0), *International Infrastructure Management Manual*, National Asset Management Steering Group, Association of Local Government Engineering NZ Inc. (INGENIUM), page 3.39.

13 National Asset Management Steering Group, Association of Local Government Engineering NZ Inc (2006) 3rd edition (Version 3.0), *International Infrastructure Management Manual*, National Asset Management Steering Group, Association of Local Government Engineering NZ Inc. (INGENIUM), page 3.58.

needs special consideration. Options include reducing the effect of their failure (for example, by having a back-up asset), or reducing the likelihood of failure (for example, by not running them at full capacity).

Identifying critical assets is closely aligned with managing risk.

Development contributions: are funds paid, typically by developers, to local authorities to help with the cost of growth. These contributions are authorised by Part 8 of the Local Government Act 2002.

Level of service/service level (and relationship to performance measures): The term "level of service" has a particular meaning in asset management. In its 2007 publication *Developing Levels of Service and Performance Measures*, the National Asset Management Steering (NAMS) Group defines levels of service as the descriptions of the service output for a particular activity or service area against which performance may be measured.[14]

There is a distinction between "customer" and "technical" levels of service. The *International Infrastructure Management Manual* says that "customer levels of service relate to how the customer receives the service".[15] Customer levels of service should define the key characteristics of the service that the customer gets, and should describe how the customer experiences the service in a way that they can understand. By contrast, technical levels of service are for the asset engineer to use. Technical levels of service are about how the organisation provides the service, should help guide day-to-day work on the assets, and form the basis of contract specifications with suppliers. They will be expressed in technical language and are often associated with technical specifications and monitoring.

Levels of service are statements. Whether they are being achieved is assessed by measuring and monitoring performance. The Royal Institution of Chartered Surveyors (RICS) in its *RICS Public Sector Asset Management Guidelines* defines asset base performance measures as "measures grounded in an organisation's strategic objectives".[16] Performance has to be considered from a range of perspectives. The RICS proposes five dimensions covering:

- social, economic, and environmental/physical impacts;
- financial imperatives;

14 National Asset Management Steering Group, Association of Local Government Engineering NZ Inc (2007) edition 2.0 (Version 2.0), *Developing Levels of Service and Performance Measures: Creating Customer Value from Community X*, National Asset Management Steering Group, Association of Local Government Engineering NZ Inc., page A4/1.

15 National Asset Management Steering Group, Association of Local Government Engineering NZ Inc (2006) 3rd edition (Version 3.0), *International Infrastructure Management Manual*, National Asset Management Steering Group, Association of Local Government Engineering NZ Inc, page 3.7.

16 Jones, Keith and White, Alan D (editors) (2008) *RICS Public Sector Asset Management Guidelines: A guide to best practice*, Royal Institution of Chartered Surveyors, United Kingdom, page ix.

- stakeholder views;
- internal excellence; and
- innovation and learning for the future.

Another way of considering the breadth of performance is in terms of:

- quantity/availability;
- quality/convenience;
- responsiveness;
- environmental impact;
- cost; and
- system efficiency.

LGA: Local Government Act 2002.

Lifecycle asset management*:* means considering management options from the time that the need for an asset is identified, through its period of operation, to the time when the asset is disposed of.

LTCCP*:* Long-term council community plan.

Opex: stands for operational expenditure. Operational expenditure or operating costs, according to the *International Infrastructure Management Manual* "include costs for operations personnel, materials, fuel, chemicals and energy consumption etc."[17] Opex is revenue spending.

Sophistication: the level of sophistication refers to the degree to which core and advanced criteria for asset management planning have been achieved. Criteria for core and advanced asset management planning are set out in the *International Infrastructure Management Manual*.[18]

Vested assets: When we use the term "vested assets" in this publication, we mean assets that are transferred to a public entity at nominal or zero cost. Typically, this might result from a situation where a developer has installed assets as part of developing a site and passes them to a public entity to manage, maintain, and deliver services through. The fair value of these assets has to be determined as they are integrated into the organisation's asset information system so that they can be appropriately managed.

17 National Asset Management Steering Group, Association of Local Government Engineering NZ Inc (2006) 3rd edition (Version 3.0), *International Infrastructure Management Manual*, National Asset Management Steering Group, Association of Local Government Engineering NZ Inc., page 3.115.

18 See: National Asset Management Steering Group, Association of Local Government Engineering NZ Inc (2006) 3rd edition (Version 3.0), *International Infrastructure Management Manual*, National Asset Management Steering Group, Association of Local Government Engineering NZ Inc., page 2.11.